Wayfinding in Complex Architectural Collections: A Collaborative Approach between Creator and Curator

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Abstract

The Moshe Safdie Archive is the largest fonds *administered by the John Bland Canadian Architecture Collection (CAC), Rare Books and Special Collections, McGill University, Montreal. In the 25 years since Safdie's original deposit to McGill University, advances in technology have changed the nature of architectural design and, consequently, how researchers access the collection [1], [2]. We were motivated to create a single, streamlined digitization workflow shared by both the Safdie Architects archivist and the CAC staff to economize time, labor, and resources. Additionally, through the use of embedded metadata developed with input from the architect himself, we sought to improve access to these materials as well as to facilitate effective research on the major themes in Moshe Safdie's work, which spans the globe and multiple decades.*

Introduction

Moshe Safdie has been a prolific contributor to the fields of architecture and urban planning as both a designer and an educator for more than 50 years. In the early 1990s, he donated his archive as an ongoing bequest to his alma mater, McGill University. Today, the Moshe Safdie Archive consists of more than 80,000 architectural drawings, hundreds of linear meters of project files, extensive photographic documentation, presentation boards, models, and, pending the completion of the project described in this paper, nearly 200 sketchbooks. Each one of his almost 400 projects (built and unbuilt) began as a series of sketches and notes jotted down in a sketchbook. Across the pages of these sketchbooks he works out general themes, specific details, and intellectual questions. Subjects vary from page to page, and project-related content is interspersed with lecture notes, administrative plans, and other creative ideas.

The sketchbooks favored by Safdie are largely the utilitarian black hardcover variety widely available in art supply stores. These are not labeled while in use, except for providing his contact information in case they are lost while traveling. Once filled, he passes them on to the Safdie Architects Communications Office staff, who affix a label indicating the sequential sketchbook number and date range. Determining the content of the hard copy original requires flipping through each page on site at Safdie Architects. Digitization for ease of access and as a preservation measure makes sense for both current in-house use and for future researchers. However, the sketchbooks are active Safdie business documents and cannot be made openly available, a restriction that puts them lower on the list of McGill Library and Archives' digitization priorities. Nevertheless, Safdie agreed that digital surrogates of these materials should be made available to qualified researchers and sponsored the digitization and subsequent deposit of the digital surrogates at the CAC. In addition, he is currently curating a subset of sketchbook images intended for unrestricted access via the CAC's website.

In parallel with the digitization of the collection, we saw a unique opportunity to solicit project knowledge from the architect himself. Our aim was to embed that project knowledge, along with uniform project information, within the digital objects. First, we aimed to create a shared controlled vocabulary for describing projects, and then to create a simple IPTC/XMP metadata profile [3] that could be applied at both the work and item level, streamlining the digital asset acquisition and description processes [4]. These digital surrogates will then arrive at the CAC offices already tagged with unique thematic and project keywords, ready for researchers to discover in a new way.

Creating a Shared, Digitally-Oriented Workflow

Prior to scanning, stakeholders from Safdie Architects, McGill Rare Books and Special Collections and McGill Digital Initiatives discussed their available resources, best practices, and goals in order to design a plan that produced the highest-quality preservation scans with available resources. This paper will focus on select aspects of this workflow owing to space limitations.

Safdie's sketchbooks are held in two separate collections: pre-1970 sketchbooks were donated to McGill's CAC at the time of the initial deposit, and cover his student work, Habitat '67, and his earliest professional projects. These are differentiated by alphabetic indicators (*e.g.*, A, Z, and AG) assigned at the CAC. Sketchbooks generated after 1970 are numbered sequentially (*e.g.*, #001, #059, #167) and pertain to all work and interests to date. The older of these are stored in a secure, high-grade storage facility in the Boston area, while the most recent are kept at the Safdie Architects office.

The CAC loaned all of the pre-1970 sketchbooks in its possession to the Safdie archivist, who determined whether they would be scanned in-house or sent to one of two commercial vendors based on condition, size, and fragility. This approach enabled all sketchbooks to be digitized to the highest standards at the lowest cost. The Safdie archivist scanned individual

sketchbook sheets on a Konica Minolta bizhub PRO C6000L scanner/copier. Large or fragile sketches were sent to vendors with an overhead scanning system to capture 600 dpi, 24-bit full RGB color images, following the FADGI Technical Guidelines for Digitizing Cultural Heritage Materials [5], and saved as master TIFF files with PDF derivatives. Filenames were created using the sketchbook title and the individual page number assigned by the CAC, if available, or the sequential page number, if unnumbered by the CAC (*e.g.*, AA_14; P_072). While this results in an inconsistent naming convention, it retained the original order and reflects the sketchbooks' provenance. As further processing plans develop, a uniform file naming convention could be applied.   An earlier digitization project undertaken by Safdie interns, prior to the creation of the archivist position, saw the post-1970s sketchbooks scanned directly to PDF format without the benefit of a consistent approach to metadata or adherence to archival standards. Subsequently, this task was taken up by the previous Safdie Architects archivist, who updated and improved the nomenclature and tagging and documented the scheme. Not all sketchbooks were fully processed at that time; a comprehensive review to ensure consistency is another potential future project. We will also update metadata when sketchbook surrogates are accessed in the future by researchers or for special projects, as such opportunities arise.

Developing a Shared Vocabulary

The first step was to develop a standardized vocabulary, which was then used to describe projects consistently between the two institutions and over time. This controlled vocabulary comprises both unique project information (internal project number, primary project name) and repeatable established supplementary subject headings solicited directly from the architect. In addition to this sketchbook project, these terms will be applied to all future transfers in all formats from Safdie Architects to the CAC.

Safdie Architects' Input

The Safdie archivist created a Master Project Information List (MPIL), which documents the project name and number data for every known project undertaken by Safdie and iterations of his firm, as well as associated *also known as* and *see also* cross references. Further, working with the architect and his staff, the archivist documented primary/roll-up and parent/child/sibling relationships between complex projects in order to better identify materials generated for the same project but issued under differing names or project numbers. These variations reflect intentional project phases, but also organic stops, starts, and unforeseen plan changes, any of which may be of potential interest to researchers [see Table 1].

The MPIL also clarifies historic discrepancies in project naming and numbering conventions between Safdie Architects' institutional workflow and the CAC's existing inventory and finding aids, and prevents future potential confusion resulting in limited researcher access. Projects already accessioned and processed by the CAC retain their historic project name and number, which were assigned as primary terms. Future projects will be transferred to the CAC under a Safdie Architects-assigned primary project name and number which resolves variations arising organically during the course of the project. In collaboration with the CAC staff, the MPIL is being further developed as a master collections inventory tool to document the CAC holdings in various formats, as well as to identify pending transfers from Safdie Architects to CAC.

Table 1: Sample MPIL Project Entry

Data Field	Example 1: Primary	Example 2: Sibling	Example 3: Roll-up
Primary Project Name	MAMILLA CENTER	MAMILLA - A - Master Plan	Mamilla - F - Jaffa Gate Restoration/ Jaffa Square
Type	Parent & Primary	Sibling	Roll-up
Base Project Name	Mamilla Development Project	Mamilla Center	Jaffa Gate Archaeological Gdns
Project AKA/FKA	MAMILLA - A - Master Plan; MAMILLA - B - David's Village; MAMILLA - C - David Citadel Hotel; MAMILLA - D - Jaffa Gate Parking; MAMILLA - E - Mamilla Hotel; Mamilla - F - Jaffa Gate Restoration/Jaffa Square Façade	Mamilla General, phase I (AKA "Mamilla Old")	Jaffa Gate Archaeological [Gardens]
Project Name/No. notes			not a project per MS 10/14
Project No.	10010	170	520
Normalized Project No.	10010	17000	52000
Primary Project No.	10010	17000	46300
See Also Project No.	17000; 27300; 42900; 43900; 45600; 45800; 45900	10010	

Identification of the individual sketchbook pages is an ongoing process. As the opportunity arises, generally in sessions of 20 minutes to two hours at a time, Safdie reviews page scans to identify the project, noting project content and relationships to other work. A single sketch taken by itself may have little superficial relation to the final, built project, not to mention the fact that one sketchbook may contain sketches of many projects, often out of thematic and/or chronological order. Safdie also identifies themes and provides historical context, for example, where an unrealized project informed a subsequent successful bid. The Safdie archivist records these comments on data entry sheets designed to track the sketchbook and page to which comments pertain. These are later matched to our metadata profile, developed in part from thematic arcs previously identified and illustrated in Safdie's eponymous 2014 monograph [6]. The application of these themes as additional descriptive metadata tags, which include *Quest for Habitation, Made in America,* and *City and Urban Design*, is described in more detail in the case studies below.

Developing a Metadata Application Profile & Shared Embedding Strategy

The next step involved collaboratively developing a preliminary metadata application profile using an IPTC schema for adding basic level descriptive metadata to the digital surrogates created at the Safdie office that included the new shared project and theme vocabulary. The profile included a mapping to a Dublin Core schema to increase the interoperability with McGill Library digital collections for future publishing opportunities.

The Safdie archivist used Adobe Bridge CS5 to review the individual pages' master TIFF and PDF files for quality and file naming consistency. To add the first level of description, the preliminary IPTC metadata profile was applied to the all of the individual files, with project and theme-specific keywords applied at the page level to individual files [see Table 2]. Next, she created access derivative PDF files to represent the work level original using Adobe Acrobat 9 Pro. The Bookmarks menu in Adobe Acrobat displays the original individual file names of the aggregated PDF files, which assists users with navigation. Since the individual page metadata did not persist through the combining process, work-level sketchbook PDF files were tagged as a final step.

Both the TIFF and PDF files were then transferred to McGill on an external hard drive. Once accessioned by the CAC, sketchbook surrogates are made available to qualified researchers via a local, restricted-access computer station in the Archive. Adobe Bridge permits efficient searching of the available metadata terms.

Table 2: Preliminary Metadata Application Profile

IPTC Elements: Safdie Architects	Dublin Core Elements: McGill Libraries	Notes	Example	Implementation Optional Required Repeatable
Creator	dc: creator	Creator of the work not the digital surrogate	Moshe Safdie	Required
Description	dc: description	Sketchbook indicator (Alpha = pre-1970; Numeric = post 1970)	Sketchbook AA; Sketchbook #154	Required
Keywords	dc: subjects	(1) MPIL: Project Name (2) MPIL: Project number (3) Optional MPIL:AKA terms, Moshe Safdie-sourced theme terms	(1) Chongqing Chaotianmen (2) 66200 (3) RCCQ; Raffles City	(1) Required (2) Required (3) Optional; Repeatable
Description writer		[First Name] [Last Name] format	Maureen Jennings	Required
Date Created	dc: coverage.temporal dc:date	Date of original image, based on year of sketchbook or date on sketch.	09/07/2004; 01/01/2004 [supplied]	Required
Intellectual Genre	dc. format	VM (visual materials)		Required
City/ State/ Province/ Country	dc. coverage.spatial	Left blank (default), or tagged to reflect location of project in sketch	Montreal, QC, Canada; Kansas City, KS, USA	Optional; Repeatable
Title	dc. title	Of original scanned image [source : image]		Required
Job Identifier	dc. identifier	Sketchbook indicator (Alpha = pre-1970; Numeric = post 1970)		Required
Credit Line	dc: rights.rightsHolder	Moshe Safdie [all images]		Required
Source	dc. isPartOf ?	Safdie Architects [all images]		Required
Copyright Notice		a) pre-1970 = McGill statement; b) post-1970 = Safdie Architects institution-specific statement until official transfer to the CAC		Required
Rights Usage Terms	dc: rights	Information about rights held in and over the image.		Required

Case Studies

1. A Single Project Across Time: Kauffman Center for the Performing Arts

The Kauffman Center for the Performing Arts, located in Kansas City, Missouri, USA, is an excellent test case for our project as the scope, programming, and nomenclature changed considerably over the design/build process (2000-2011). These name changes and project details are documented in the Master Project Information List. Additionally, Safdie used varying terms to note which project he was sketching, often just abbreviated to "Kansas," a term applicable to multiple projects.

The image metadata provides the official Safdie Architects project name and project number (56000 - Kauffman Center for the Performing Arts) as the first element in the Keyword tag, followed by the a.k.a. terms associated with previous project iterations (Ballet School; Kansas Ballet School; Kansas City Ballet Center, Kansas City Performing Arts Center; Kansas - Opera House; Kansas - Small Theater). Since Safdie's sketchbook project notations include the primary terms (in whole or part) and are thus searchable, these were not included as added entries.

2. A Common Theme Shared by Multiple Projects Across Time: Quest for Habitation

Safdie's most iconic work is, without question, Habitat '67, his contribution to the 1967 World's Fair held in Montreal. This urban housing complex manifests the modular design, urban planning concepts, and manufacturing innovations first proposed in his thesis project as a student at McGill University. Key aspects of Habitat carry through over 50 years of subsequent projects, as variations on the visual geometric vernacular or prominence of space, light, and privacy in high-density housing.

For our test case, we worked with projects connected to this theme by Safdie in his 2014 monograph, as mentioned earlier. While the word "habitat" occurs in the official title of nine projects conceived between 1964 and 2010 (built and unbuilt), the *Safdie* chapter "Quest for Habitation" identifies over 40 projects throughout which Habitat '67's themes are manifest (*e.g.*, Tropaco Resort, US Virgin Islands, 1968-1969; Habitat Tehran, Iran, 1976-1978; Esplanade Condominiums, USA, 1986-1989; and Sky Habitat, Singapore, currently under construction). Individual sketchbook page scans depicting projects thematically related to Habitat '67 were tagged with metadata outlined in the section above. Using common-theme terms established by the creator provides reliable connections between collection materials otherwise potentially unseen by collection stewards and researchers.

Outcomes & Lessons Learned

Throughout the course of establishing, developing, and carrying out the protocols discussed above, we learned that it was not always possible for priorities and standards to overlap completely, due to institutional differences between a private architectural firm and an academic library. Our goal from the outset was to establish the best possible mutually-agreed upon practices, but aligning workflows required time, effort, and compromise. The digitization workflow managed by the Safdie archivist varies slightly from McGill's own digitization best practices due to technical and resource limitations. Additionally, the threshold between active and archival materials, a threshold that may occur even within an individual sketchbook, posed challenges to both partners. For example, digitization managed by McGill would, according to that institution's mandate, result in unrestricted online access not yet permissible in light of Safdie Architects' business purposes. We also encountered the twin challenges of working with legacy metadata, produced during several prior periods of more sustained Archive activity stretching back more than a decade, along with establishing standardized controlled vocabulary for item description. These challenges were overcome via development of the comprehensive MPIL from which we drew standardized descriptive terms.

Our test case takes as its subject an extensive, yet focused collection of materials. In the case of a much larger set of material—for example, the more than 80,000 architectural drawings currently accessioned in the Safdie Archive—our proposed workflow would be untenable due to its large resource demands. We believe that the protocols described here are best applied judiciously, and will be most effective when implemented for select projects with a focused collection for the greatest return on investment. Additionally, the processing of original hard copies required advanced knowledge of the subject matter. In our test case, it was critical to have the input of the creator, which was of inestimable value in terms of one of the overarching goals of our test case: to permit researchers greater search capabilities, thereby allowing for the best possible access to the collection.

While establishing and fine-tuning the working relationship between a private enterprise and an academic archive requires flexibility and compromise, we are enthusiastically in agreement that it is an advantageous situation for both parties on multiple levels: workflow efficiency, metadata standardization, prudent resource expenditures, as well as the personal camaraderie and professional satisfaction that comes from working together to achieve complex and challenging common goals. And finally, we always kept the finished project in mind: unparalleled access to the nascent ideas for some of the past fifty years' most important and iconic works of architecture, as well as access to sketches which are correctly regarded as works of art in their own right.

References

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Author Biographies

Maureen Jennings is the Archivist/Records Manager at Safdie Architects in Somerville, Massachusetts, where she coordinates the transfer of project materials to the John Bland Canadian Architecture Collection, McGill University Library.

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