Good afternoon. My goal today is to present a very brief introduction to a complex problem that I am approaching in my research.
In this presentation, I will describe the nature of the problem, provide a little background on my interest in preserving architectural records, situate my work by acknowledging what has been accomplished, and introduce my current research project. I'll end by talking about the collaboration I see as necessary to preserve architectural records.
Within the larger field of digital records preservation, architectural records are a relatively small and distinct subset of the body of materials in danger of being lost if we do not take an active role in addressing long-term preservation needs. Architectural firms have been using computer technologies for the past 30 to 40 years as an integral part of the design process, as well as in the management of their practices.

There is a disconnect between contemporary practices in architecture and our ability to preserve the industry's records in libraries, archives, and museums. The architecture profession has evolved to include architectural engineers, interior designers, urban planners, and historic preservation professionals, at times all within one firm, in addition to the traditional roles of architect, draftsman, and administrative staff. All of these people produce records throughout the course of their work. Asset management within architectural practice is usually based on legal requirements and marketing potential. The long-term preservation of records is not generally a priority in the deadline driven architectural environment. It has been a priority for information repositories that function as stewards of architectural materials, but with the shift to digital design and asset management, libraries, archives, and museums face new challenges in the acquisition, appraisal, and preservation of records.
Repositories that have collected architectural materials, including drawings, models, specifications, photographs, correspondence, and firm documents now face the challenge of preserving increasingly complex digital records. In my work at the Alexander Architectural Archive I have become acquainted with the variety of records in an architectural repository as well as the concern over collecting digital records.

In 2002, Yale architectural archivist Laura Tatum wrote “A crucial link in the continuum between architectural records of the past and those of the future is being contemporaneously lost simply because no one knows what to do with the records of the moment.” Nine years later, repositories are still struggling with how to preserve and provide access to digital records. And architectural practice continues to employ new methods and technologies within the design process. As building information modeling, or BIM, becomes an dominant methodology, architecture firms are working collaboratively to develop building simulations that increase integration and automation throughout the lifecycle of a building project. Firms can use three-dimensional, dynamic building modeling software collaboratively to design and engineer buildings, which produces large complex record arrangements.
I have become motivated to research contemporary architectural practice in an effort to understand the ways in which firms are now producing records – both paper based and digital. Many architects and designers create computer-aided design drawings, 3D models, and animations in their design process. Project documentation and firm marketing result in digital photographs and in-house image collections. Project management involves communication and collaboration within the firm as well as with outside contractors, predominantly through email. Firms use proprietary software to design, communicate, and manage their records. In addition to the digital files generated through these processes, firms still print and make changes on paper drawings and retain legally required documentation. Some members of the firm keep sketches on paper and in notebooks, but there is no mechanism in place for their storage. The preservation of records documenting architectural practice will involve both understanding digital records and making connections to the paper production of a firm.

The sheer volume of architectural records produced by contemporary firms makes the task of preserving their records daunting. Fortunately, two major projects in the United States have provided a context for further study of the problem.
The first major project that attempted to study digital architectural records in the United States was conducted at the Department of Architecture at the Art Institute of Chicago, beginning in 2003. The purpose of the Digital Design Data study was to understand how architecture and design firms create and use digital data to determine the best practices for archiving the data within archives and museums. The investigators conducted a two-part examination to determine the current digital data practices of architecture firms. In-depth case studies of projects from nine firms in the United States provided information on the extensive use of digital tools as part of the design process. The investigators questioned how the participants used digital tools and the extent to which the tools dominated their design practice. They also conducted an international survey that gathered information about digital design from over one hundred firms. In the end, they recommended a two-tier system, with a primary collection containing final digital artifacts and a secondary collection of related native data used to derive the primary object. The Digital Design Data project amassed a tremendous amount of data about architectural practice and the technologies used within the field, but practice is continually changing and new technologies emerge. Kristine Fallon & Associates collaborated with Art Institute of Chicago to conduct the study and she went on to serve on the Advisory Board of MIT’s FACADE project.
In 2007, MIT Libraries' Digital Libraries Research Group and MIT’s Department of Architecture received funding from the Institute of Museum and Library Services to investigate ways of preserving digital CAD files and to use open source solutions to store and provide access to architectural records. The project was necessarily more narrowly conceived than the study at the Art Institute of Chicago. The FACADE project primarily focused on the specific characteristics that make 3D computer-aided design documents (drawings and models) difficult to archive and preserve. Researchers investigated strategies for curating and preserving these complex files. The project team came up with recommendations for identification, migration, and emulation of 3D CAD models and determined four versions that should be kept to meet the varying needs of information users.

As of 2010, work on the FACADE project continued at a rate of 2-3 projects a year successfully archived. The project contributed a great deal to the continual research on preserving digital architectural records, but is it not scalable for handling large quantities of architectural records. Nor is it replicable model for repositories that lack the large scale funding and technical expertise at MIT.
So where do I come in?

Building on the work done in these projects, I am taking a smaller approach by looking closely at the architectural practice of one firm with an eye toward how their records might be transmitted to a repository. I believe that actively working within the community that generates records is crucial to digital preservation.

My goal is to document architectural practice in ways that will inform the long-term preservation of firm records. I have started by interviewing members of a firm in Austin, Texas. My intention is to talk to architects about their design process to understand how records, both paper and digital are created, in the course of their work and how digital technologies influence their design practices. I am also interviewing and observing asset managers at the firm who are tasked with managing and preserving records.

My initial findings show that architects work is an iterative design process in a collaborative environment. They work closely with engineers and interior designers. In their work and their descriptions of the industry they are very focused on speed and on efficiency of work. There is a shift to building information model (BIM) technology taking place at the firm. The architects are staring to use Revit, a proprietary software from AutoDesk, which a long-term industry leader in architecture, engineering, and construction software. Revit is one example of a top-down technology decision from the principal architects, because BIM is seen as where the industry is headed to increase coordination between architects, engineers, and contractors.

At this design-build firm where I am doing my study, engineers have been using Revit for a while, but the architects are slowly transitioning to the new technology.
My work thus far has led me to more questions than answers. For instance:

Since we cannot manage and preserve everything in perpetuity, where do start? and Where do we stop?

What can repositories do to prepare themselves to preserve digital architectural records?

How can we work more collaboratively to document architectural practice?
So, where does this leave us?

Documenting contemporary architectural practice will require an extensive collaborative network, potentially including architects, archivists, library, museum and visual resources professionals, along with technology specialists, to create systems for long-term preservation and access to records.

One of the great challenges is that these groups, and individuals with them, will come with different perspectives and different priorities. By presenting my research and continuing to embed myself in the firm, I hope to establish a continual conversation and negotiation that allows me to document architectural practice and hopefully connect architects and their records with repositories.

In my interviews, I recorded a great quote from a lead designer who described the process of working with a team of designers. He predominantly designs in his head and articulates his vision to younger architects who use various programs to create drawings. The process of designing a project is lengthy and complex and he summed it up by saying “you need more fingers than ten, so you solicit other people’s fingers and then their minds come with them and that’s really great.” I think the same things is true for the process of preserving the records created during the course of architectural practice.
Thank you, I am happy to answer any questions and take suggestions on furthering my research.