

INTEGRATED DATABASE PROJECT

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It is difficult to pinpoint an exact start date for the Integrated Database (IDB) Project. According to information in the archives of the project, faculty and staff of the Institute met to discuss the idea as early as August 1990. In those days, the idea was spearheaded by John Sanders (former research associate and head of the Oriental Institute Computer Laboratory) and Charles Jones (former research associate, bibliographer, and librarian in the Research Archives, now Tombros librarian for classics and humanities at Penn State University), who had written reports, grants, and outlines throughout the 1990s and into the 2000s. The project picked up steam during the directorship of Gil Stein and initial planning meetings were begun in 2004, when the project was led by a committee eventually headed by Scott Branting (former assistant professor and director of the Center for Middle Eastern Landscapes, now assistant professor at the University of Central Florida). It took roughly ten years to draft appropriate plans, determine feasibility, and raise funds to launch the project. An important, but often overlooked, companion piece was the establishment of the Oriental Institute Archive server managed by University of Chicago IT Services. The server allows Institute faculty, staff, and projects to store and retrieve digital files in a single server location (i.e., a “cloud”) while the technical details for preservation, storage, and backup are professionally managed.

From 2005 through 2008, the IDB committee sent out requests for information to a number of software vendors who were invited to give demonstrations of the packages they had to offer. After a rigorous vetting process, the committee selected EMu (for “Electronic Museum”) designed by KE Software, which has since been acquired by Axiell. An initial acquisition of the client software was made possible by a generous capital budget request from the University of Chicago. The project officially got up and running when it received a Museums for America grant from the Institute of Museum and Library Services (IMLS) covering the years from 2010 to 2012. This grant allowed for the customization of the software and the migration of the first two data silos into the system, consisting of the library catalog of the Research Archives and the object catalog of Museum Registration. Digitizing the data and integrating it into a modern database platform provided the foundation for making public access to this information available for the first time in the Institute’s history. A soft launch of the beta version of the Search Our Collections page (<https://oi-idb.uchicago.edu>) went live in December 2012 and an official public announcement went out in January 2013.

Over the last ten years, the staff from across the Oriental Institute has worked diligently to build on these foundations. Our efforts have benefited immensely from the continued support of the Institute of Museum and Library Services, whose federal funding is a necessity for accomplishing this work. Without the funding provided by four successive grants over the course of 2012–2018, it is very unlikely that the Oriental Institute would have a public online platform for searching its collections. Neither would there be an integrated internal data network for managing the collections – a fundamental necessity in the twenty-first century for the ethical and sufficient handling of cultural heritage materials. Records in the database (see table 1) represent only one facet of this ongoing challenge to organize, track, and record all relevant information about the Oriental Institute’s collections.

Table 1. Approximate Total Records in the Integrated Database

<i>Department</i>	<i>Records in EMu</i>	<i>Records on Website</i>
Research Archives	540,000	537,726
Museum Registration	276,972	235,478
Photographic Archives	225,000	124,146
Museum Archives	75,554	75,173
Epigraphic Survey	22,026	21,502
CAMEL	20,889	8,869
Museum Conservation	11,000	—

PHASE IV 2016–2018

Phase IV of the IDB project was funded by an IMLS Museums for America grant (MA-30-16-0311), which was commenced in October 2016 and will be completed in September 2018. As introduced in the *Annual Report* for 2016–17, Phase IV focused on two major datasets, one from the Museum Archives and one from the Epigraphic Survey. First, we worked on cataloging and digitizing the archival materials related to threatened cultural heritage sites in Iraq and Syria, particularly

Tell es-Sweyhat, Khorsabad, Nippur, Hamoukar, Khafaje, Tell Asmar, Tell Agrab, and Ishchali. Second, we wanted to begin the migration of material from the Epigraphic Survey, focusing during Phase IV on the incorporation of scans of large format negatives and other archival material.

Over the course of the last two academic years, staff and volunteers in the Museum Archives have cataloged all the archival records associated with the above-mentioned sites down to the box level, and archival finding aids have been produced. This has resulted in a catalog of the following materials:

- Tell es-Sweyhat: 81 boxes, 143 3-ring binders, and 23 notebooks
- Khorsabad: 3 series, 26 boxes, 131 folders, and 195 individual items
- Nippur: 56 boxes
- Records of the Diyala Expedition (including Khafaje, Tell Asmar, Tell Agrab, and Ishchali): 149 boxes, 4,994 folders
- Epigraphic Survey: 6 series, 79 boxes

In addition, the following material has been digitized and incorporated into our EMu database:

- 10,000 object registration cards from the excavations at Tell es-Sweyhat
- 2,000 negatives from the excavations at Khorsabad
- 5,000 object registration cards, 2,000 object images, 2,000 locus cards, over 1,000 pages of field registers, 400 pages of field diaries, 200 drawings, and 450 archaeological and architectural plans from the records of the Diyala Expedition
- 21,500 large format negatives from the Epigraphic Survey

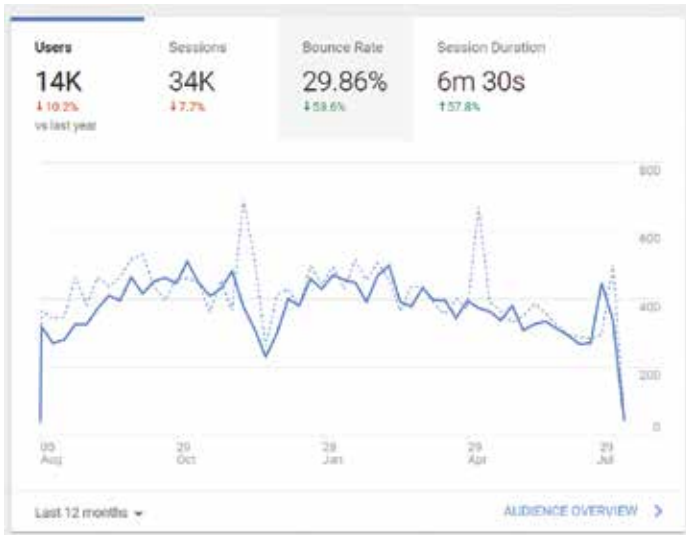
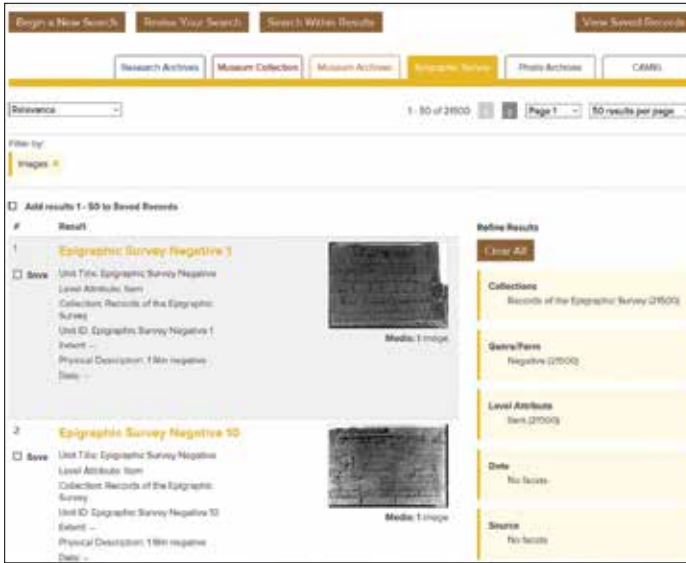
It is important to acknowledge the collaboration of Clemens Reichel and George Sundell from the Diyala Project, as well as Ray Johnson, Brett McClain, and Sue Lezon from the Epigraphic Survey, in acquiring and incorporating the digital materials related to their projects. Without their help, we would have accomplished far less than we were able to with their help. The incorporation of this material into the IDB fills important lacunae. The Search Our Collections webpage now serves as the only publicly available online portal and catalog to the incredibly valuable negatives and photographs from the Epigraphic Survey, covering sites in Egypt over the last one hundred years and often documenting features that have since deteriorated or vanished entirely. Likewise, the cataloged and digitized material related to threatened cultural heritage sites in Iraq and Syria makes available for the first time a treasure trove of documentation that will fuel and inspire a new generation of scholarship while simultaneously helping to build, document, and preserve knowledge of these world heritage resources that have faced relentless environmental and political threats.

As part of the Phase IV grant, we customized and updated our internal EMu client software to reflect changes intended to better serve these new collections. In collaboration with Tony Lauricella and CAMEL (Center for Ancient Middle Eastern Landscapes) staff, new features have been added to an internal module called Sites, which is intended to serve as a comprehensive catalog of archaeological sites in the Middle East. Records in the Sites module include geographic information system (GIS) data such as longitude and latitude coordinates for each archaeological site. Incorporating and integrating this information into the system promises to allow for future queries and research based on geographic information, including spatial searches performed through a graphic map interface. By drawing a polygon on a map, users could retrieve all records in the database — including those from all other departments such as library, collection, and archival records — relevant to sites within the polygon. For example, users could find all objects in our museum collection through a spatial search on a map or look up all library materials (including journal articles and conference proceedings) covering a specific site or set of sites. These developments represent incredibly useful tools looking toward future research that expands the ways in which our data can be manipulated, queried, and visualized.

In addition to general updates and customizations related to Museum Archives, a major component implemented in Phase IV was the Exhibition Objects module. Largely led by Associate Registrar Susan Allison and inspired by a presentation by Sharon Grant at a session of Midwestern EMu users held at the Field Museum, the Exhibition Objects module was designed to organize and record information about the relationship of an individual object to an exhibition. This includes data from across the museum about its condition, conservation, preparation, mounts, photography, and exhibition labels, among others. The module allows for a “one stop shop” for museum staff in exhibition planning to see the most current information about the status of an object as it goes through the process of assessment, photography, preparation, and exhibition. Careful thought was devoted to design so that individual departments were not burdened with undue excess or duplicative work, but rather can incorporate their current protocols and workflows. The module will help to streamline how exhibitions are planned and how data are shared among institutional partners. Rather than managing individual spreadsheets and emails, updated exhibition data can always be found directly in the system and exported to reports as needed.

SEARCH OUR COLLECTIONS (<https://oi-idb.uchicago.edu>)

The most important development of the academic year for the online public Search Our Collections page was the creation of a new departmental tab for the Epigraphic Survey (fig. 1), which has been color-coded yellow on the site to distinguish it from the other departmental tabs (Research Archives = Blue; Museum Collection = Red; Museum Archives = Orange; Photo Archives = Green; and CAMEL = Purple). In January 2018, the tab was launched with 21,502 digitized images from the large format negatives collection of the Epigraphic Survey. For the first time, a catalog of these incredibly important images has been made available to both scholars and the public. Many of the images document material that has either further deteriorated or has disappeared entirely. In addition, many of the images have never appeared in any print publication before and therefore the only source remains the Epigraphic Survey negatives. These records will certainly stimulate important new research on the texts, images, architectural features, and archaeological remains from ancient Egypt that they document. The Epigraphic Survey tab will continue to serve as the public portal to the catalog of digitized Epigraphic Survey material and we look forward to expanding the Epigraphic Survey’s publicly accessible files as well as creating useful tools for working with them.



In June and July of 2017, we enabled Google Analytics for the Search Our Collections site and we can now get a better sense of who is using the site and how they are using it (fig. 2). In the past year, we’ve had nearly 15,000 unique users in over 34,000 sessions who spent an average session duration of over six minutes. The audience is international, but overwhelmingly American, with 58% of users from the US, 5% from the United Kingdom, 4% from Germany, 3% from France, 3% from Canada, 3% from Italy, 2% from Egypt, and fewer than 2% from over one hundred other countries. The vast majority of users (over 95%) are primarily conducting new searches, details views, or revised searches. Popular searches were for all items on display in various galleries, with the Egyptian and Assyrian galleries topping searches for the Mesopotamian gallery by two to one. These searches appear to be conducted through the “Browse Museum Galleries” tool on the homepage, which suggests that visitors to the museum – including perhaps tour groups and students – are using the Search Our Collections page to learn about the objects on display in the galleries either before or after they have visited.

Figures 1-3. TOP: Departmental tab for the Epigraphic Survey. MIDDLE: Google Analytics data for users of the Search Our Collections site. BOTTOM: New navigation arrows allow users to easily skim through records.

Supporting the conclusion that the site is reaching an audience beyond scholars and academics, apart from the homepage and saved records pages, the most popular record viewed continued to be the Oriental Institute's iconic *lamassu* (<https://oi-idb.uchicago.edu/id/10443a90-e395-4a2f-a81f-75a3b2312c1c>), with over 1,200 views during the course of the year. The next three most popular records correspond to records accessible from the slideshow of highlights on the home page. This suggests that many users are clicking on these image highlights and navigating to their associated records. Likewise, the most popular keywords searches are for "Egypt," "Persepolis," "Lamassu," "Megiddo," "Mesopotamia," "Hammurabi," and "Book of the Dead." All of this suggests that the collections search reaches far beyond the relatively small body of academic researchers and scholars who are its primary audience. For that reason, we are investigating ways to make the resource more useful to casual and popular audiences.

To help us improve the functionality of the site, Anne Flannery and Foy Scalf led four focus group workshops in the early summer of 2018 with participants from faculty, graduate students, public educators, and volunteers. Their feedback has been extremely helpful in planning the next stages and upcoming developments for the IDB, including a more visible help link, a user-friendly page of video thumbnails for the Wiki instructional page (available on the University of Chicago Wiki site: <https://wiki.uchicago.edu/display/OISOCW/>), a more intuitive search for records with associated images, and additional views so that users have options for how to display their data. The focus groups, partially funded by the IMLS grants, provide us with much needed user perspectives for how the tools are being employed and how we can better design the site to help users easily get to the information they want.

Helping users was the focus of several upgrades accomplished over the course of the last academic year. One of the major new features is the ability to save records from every department and to download the data to a comma separated values (.csv) file. This should aid anyone who wants to work directly with the data in another software program, such as Microsoft Excel or Filemaker Pro, and it may help to decrease research requests for such data from staff, particularly Museum Registration. Paging navigation was added to the details view for each record, enabling users to click through individual records in their results list (fig. 3). For the Research Archives, search options and facet refinements were added for filtering library records corresponding to material that is online, the type of access (open access vs. subscription), and whether the record is for a review of a book as opposed to the book itself. For the Museum Collection, display, search, facets, and browse fields were added for metadata related to inscriptions, including transliteration and translation of ancient texts. Users will find lots of new data to sift through as we fill in those fields over the coming years. They will also find a much improved website experience as we incorporate changes based on our focus group feedback.

PHASE V

A grant application was submitted to the Institute of Museum and Library Services in November 2017 for Phase V of the IDB project, which would cover the years 2018–2020. Phase V is planned as a capstone project with two stages. The overall goal of the capstone project is to produce a new digital inventory of the Oriental Institute Museum holdings, integrate it with the digital assets of the IDB, and distribute it via the public web portal. Such an inventory would: a) establish a twenty-first century model for cultural heritage disaster protocols in the Information Age adhering to the highest standards of practice; b) increase both data- and image-based access to this unique collection for the diverse audiences of the OIM; and c) provide a protocol of visual documentation to mitigate against potential loss. In practice, a digital inventory would consist of at least one digital image for every object in the museum's artifact collection. Currently, roughly 50,000 out of 300,000 items have an

associated digital image. Phase V would focus on filling the gap by obtaining or producing images of as many of the remaining 250,000 objects as possible. Stage 1, from 2018–2020, would focus on identification and digitization of object photographs in the museum archives and digitized publications, providing a digital visual record of an object through archival images. Stage 2, from 2020–2022, following the centennial and gallery enhancements project, would focus on born digital imaging of the objects in need of digital images after Stage 1, which we estimate will be 175,000–200,000 objects. Phase V is the logical culmination and natural progression of the last eight years of work to fully expose the collections of the OIM to a worldwide audience.

ACKNOWLEDGMENTS

The Integrated Database Project would not be possible without its generous funders: the Oriental Institute, the University of Chicago, the Institute for Museum and Library Services, and Aimee Drolet Rossi. By its very nature, the project is a collaborative affair, with many of the Institute’s staff performing fundamental work-related tasks in the database on a daily basis. Like the old card catalog systems, the database has become the new engine for information storage, retrieval, and organization. The IDB has become an integral part of managing collections at the OI, as well as for distributing that information to the public. Our jobs are made so much easier by faculty, staff, students, and volunteers, who are helping catalog the collections within our care. They are thanked individually in the relevant departmental sections of the Annual Report. Without the help of the dozens of people participating in the project, we could never have reached the impressive accomplishments we’ve made over the last eight years.
