

APPLICATION FOR FEDERAL DOMESTIC ASSISTANCE - Short Organizational*** 1. NAME OF FEDERAL AGENCY:**

Institute of Museum and Library Services

2. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER:

45.312

CFDA TITLE:

National Leadership Grants

*** 3. DATE RECEIVED:**

11/15/2010

SYSTEM USE ONLY*** 4. FUNDING OPPORTUNITY NUMBER:**

SPARKS-FY11

*** TITLE:**

Sparks! Ignition Grants for Libraries and Museums

5. APPLICANT INFORMATION*** a. Legal Name:**

Indianapolis Museum of Art, Inc.

b. Address:*** Street1:**

4000 Michigan Road

Street2:*** City:**

Indianapolis

County:*** State:**

IN: Indiana

Province:*** Country:**

USA: UNITED STATES

*** Zip/Postal Code:**

46208-3326

c. Web Address:

http:// www.imamuseum.org

*** d. Type of Applicant: Select Applicant Type Code(s):**

M: Nonprofit with 501C3 IRS Status (Other than Instit

Type of Applicant:**Type of Applicant:***** Other (specify):***** e. Employer/Taxpayer Identification Number (EIN/TIN):**

35-0867955

*** f. Organizational DUNS:**

065548273

*** g. Congressional District of Applicant:**

IN-007

6. PROJECT INFORMATION*** a. Project Title:**

Learning How Visitors Look: Applications of Eye Tracking Research by the Indianapolis Museum of Art

*** b. Project Description:**

The Indianapolis Museum of Art (IMA) will utilize its experience in visitor research, arts education, and technology to conduct a series of controlled experiments that utilizes eye tracking technology. "Learning How Visitors Look: Applications of Eye Tracking Research by the Indianapolis Museum of Art" will consist of three experiments that aim to demonstrate the usefulness and potential barriers to wide adoption of eye tracking technology by the museum community, as well as determine if such methods provide useful tools for improving visitor experience. The results of these experiments have the potential to reveal entire new fields of study and applications for museum management, fostering a deeper understanding of the cognitive processes of visitors in the gallery, and potentially offer an avenue for improved user-interface design to deliver interpretive resources.

c. Proposed Project: * Start Date: 07/01/2011 * End Date: 06/30/2012

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Version 01

7. PROJECT DIRECTOR

Social Security Number (SSN) - Optional:

000-00-

Disclosure of SSN is voluntary. Please see the application package instructions for the agency's authority and routine uses of the data.

Prefix: <input type="text" value="Mr."/>	* First Name: <input type="text" value="Robert"/>	Middle Name: <input type="text"/>
* Last Name: <input type="text" value="Stein"/>		Suffix: <input type="text"/>
* Title: <input type="text" value="Chief Information Officer"/>		* Email: <input type="text" value="rstein@imamuseum.org"/>
* Telephone Number: <input type="text" value="317-923-1331 ext. 244"/>		Fax Number: <input type="text" value="317-920-0399"/>
* Street1: <input type="text" value="4000 Michigan Road"/>		Street2: <input type="text"/>
* City: <input type="text" value="Indianapolis"/>		County: <input type="text"/>
* State: <input type="text" value="IN: Indiana"/>		Province: <input type="text"/>
* Country: <input type="text" value="USA: UNITED STATES"/>		* Zip/Postal Code: <input type="text" value="46208-3326"/>

8. PRIMARY CONTACT/GRANTS ADMINISTRATOR

<input type="checkbox"/> Same as Project Director (skip to item 9):	Social Security Number (SSN) - Optional: 000-00- <input type="text"/>	
Disclosure of SSN is voluntary. Please see the application package instructions for the agency's authority and routine uses of the data.		
Prefix: <input type="text" value="Ms."/>	* First Name: <input type="text" value="Aubrey"/>	Middle Name: <input type="text" value="J"/>
* Last Name: <input type="text" value="DeZego"/>		Suffix: <input type="text"/>
* Title: <input type="text" value="Grants Officer"/>		* Email: <input type="text" value="adezego@imamuseum.org"/>
* Telephone Number: <input type="text" value="317-923-1331 ext. 294"/>		Fax Number: <input type="text" value="317-920-0399"/>
* Street1: <input type="text" value="4000 Michigan Road"/>		Street2: <input type="text"/>
* City: <input type="text" value="Indianapolis"/>		County: <input type="text"/>
* State: <input type="text" value="IN: Indiana"/>		Province: <input type="text"/>
* Country: <input type="text" value="USA: UNITED STATES"/>		* Zip/Postal Code: <input type="text" value="46208-3326"/>

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9. * By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties (U.S. Code, Title 218, Section 1001)

** I Agree

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

AUTHORIZED REPRESENTATIVE

Prefix: <input type="text" value="Mr."/>	* First Name: <input type="text" value="Maxwell"/>	Middle Name: <input type="text" value="L"/>
* Last Name: <input type="text" value="Anderson"/>	Suffix: <input type="text"/>	
* Title: <input type="text" value="The Melvin & Bren Simon Director and CEO"/>	* Email: <input type="text" value="manderson@imamuseum.org"/>	
* Telephone Number: <input type="text" value="317-923-1331 ext. 241"/>	Fax Number: <input type="text" value="317-920-0399"/>	
* Signature of Authorized Representative: <input type="text" value="Aubrey DeZego"/>	* Date Signed: <input type="text" value="11/15/2010"/>	

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Prescribed by OMB Circular A-102

PROGRAM INFORMATION SHEET – PAGE TWO

2. Grant Program or Grant Category (cont'd)

k. Native American/Native Hawaiian Museum Services

- Programming
 Professional Development
 Enhancement of Museum Services

l. Sparks! Ignition Grants

Select Museum or Library:

- Museum
 Library

3. Request Information

a. IMLS funds requested: \$24,890.00

b. Cost share amount: \$6,097

4. Museum Profile (Museum Applicants only)

a. Is the institution either a unit of state or local government or a private not-for-profit organization that has tax-exempt status under the Internal Revenue Code and that is organized on a permanent basis for essentially educational or aesthetic purposes? Yes No

b. Does the institution own or use tangible objects, whether animate or inanimate? Yes No

c. Does the institution care for tangible objects whether animate or inanimate? Yes No

d. Are these objects exhibited by the institution to the general public on a regular basis through facilities the institution owns or operates? Yes No

e. Is the institution open and exhibiting tangible objects to the general public at least 120 days a year through facilities the institution owns or operates? Yes No

Institution's attendance for the 12-month period prior to the application: Onsite: 400,000 Offsite: 1,000,000

Year the institution was first open and exhibiting to the public: 1883

Total number of days the institution was open to the public for the 12-month period prior to application: 310

f. Does the institution employ at least one professional staff member, or the fulltime equivalent, whether paid or unpaid, who is primarily engaged in the acquisition, care, or exhibition to the public of tangible objects owned or used by the institution? Yes No

Number of full-time paid institution staff: 202

Number of full-time unpaid institution staff: 0

Number of part-time paid institution staff: 100

Number of part-time unpaid institution staff: 650

g.

Fiscal year	Revenue/ Support Income	Expenses/ Outlays	Budget deficit (if applicable)*	Budget surplus (if applicable)*
Most recently completed FY10	\$20,100,135.00	\$20,100,135.00	\$0.00	\$0.00
Second most recently completed FY9	\$44,561,225.00	\$44,561,225.00	\$0.00	\$0.00

*If Institution has a budget deficit or surplus for either of the two most recently completed fiscal years, please explain the circumstances of this deficit or surplus in the Text Responses section of the application.

5. Project Partners

In the space below, please list the names of any organizations that are official partners in the project. All official partners must include a completed Partnership Statement Form in this package.

n/a

6. Native Hawaiian Organization Eligibility (Native American/Native Hawaiian Programs only)

Is the institution an eligible not-for-profit organization that primarily serves and represents Native Hawaiians (as defined in Title 20 U.S.C. Section 7517; if yes, see Proof of Eligibility requirements)? Yes No

PROGRAM INFORMATION SHEET – PAGE THREE

7. Institutional Profile (Native American Library Services Grants only)

- a. Number of hours per week the library collection is accessible to patrons:
- b. Number of staff dedicated full-time to library operations:
- c. Number of staff with part-time library duties:
- d. Number of items in the collection (books, journals, media):
- e. Number of items checked out per year:
- f. Does library staff have access to the Internet? Yes No
- g. Does the library provide public access to the Internet? Yes No
- h. Amount of operating budget for library services in most recently completed fiscal year:
- i. Identify which of the following activities will be supported by grant funds (check all that apply):
- Expand services for learning and access to information and educational resources.
 - Develop library services that provide all users with access to information.
 - Provide electronic and other linkages between and among all types of libraries.
 - Develop public and private partnerships with other agencies and community-based organizations.
 - Target library services to help increase the access and the ability to use information resources for individuals of diverse backgrounds, with disabilities, or with limited functional literacy or information skills.
 - Target library and information services to help increase the access and the ability to use information resources for persons having difficulty using a library, and for underserved urban and rural communities.
- j. Maintenance of Effort (check the appropriate response):
- FY 2010 expenditures will equal or exceed previous 12 month grant period. Maintenance of effort is assured.
 - FY 2010 expenditures will not equal or exceed previous 12 month expenditure. Maintenance of effort is not assured.
 - Maintenance of effort does not apply.

8. Collection and Material Information (Conservation Project Support Grants only)

a. Type of Collection

- Non-living Natural history/Anthropology
- Animals, living Plants, living

b. Types of Materials. Use a scale from 1 (primarily affected) to 4 (minimally affected) to show which collection types are primarily affected by the project:

aeronautics, space/airplanes	horological (clocks)	photography, negatives
animals, live	landscape features, constructed	photography, prints
animals, preserved	machinery	physical science projects
anthropologic, ethnographic	maritime, historic ships	plants, live
archaeological	medals	plants, preserved
books	medical, dental, health,	sculpture, indoor
Ceramics, glass, metals, plastics	pharmacological	sculpture, outdoor
documents, manuscripts	military, including weapons	textiles and costumes
furniture/wooden objects	motion picture, audiovisual	tools
geological, mineral,	musical instruments	toys and dolls
paleontological	numismatics (money)	transportation, excluding
historic building	paintings	airplanes
historic sites	philatelic (stamps)	works of art on paper

Abstract

The Indianapolis Museum of Art (IMA) will utilize its experience in visitor research, arts education, and technology to conduct a series of controlled experiments that utilizes eye tracking technology. *Learning How Visitors Look: Applications of Eye Tracking Research by the Indianapolis Museum of Art* will consist of three experiments that aim to demonstrate the usefulness and potential barriers to wide adoption of eye tracking technology by the museum community, as well as determine if such methods provide useful tools for improving visitor experience. IMA technology, education, and media departments will collaborate to design, create, execute, and evaluate each experiment.

The first experiment will use eye tracking equipment to monitor the amount of time a visitor's eyes spend looking at a work of art to gauge visitor attention. The second experiment will utilize eye tracking equipment to monitor a user's gaze during a typical Visual Thinking Strategies (VTS) session facilitated by an IMA educator. A video recording (with audio) of the session will be made and synchronized with the data stream from the eye tracking hardware, allowing IMA staff to examine the connection between gaze and response in an attempt to gain a practical understanding of how user's look at art. The final experiment will focus on finding ways to allow the user to access content about a particular work of art using gaze (i.e. looking at a preselected place in the artwork could automatically play an audio file) in order to see if eye tracking proves to be useful in providing interpretive information to visitors.

Finding new ways to meaningfully engage visitors in objects is a perpetual challenge for museum professionals. Eye tracking technology provides a new avenue to understanding how visitors experience works of art. The experiments outlined above will offer insight into ways eye tracking technology and practice might best inform museum practice in terms of exhibition design, programmatic activities, and information delivery.

Individual experiment results will be disseminated on the IMA's website and blog, as well as summarized in a final project whitepaper that describes the findings, benefits, and challenges of adoption. Additionally, the IMA will address specific skill-sets and technology needs required to successfully apply these techniques in other settings. The results of these experiments may potentially reveal entire new fields of study and applications for museum management, fostering a deeper understanding of the cognitive processes of visitors in the gallery, and potentially offer an avenue for improved user-interface design to deliver interpretive resources.

The IMA respectfully requests \$24,890 to underwrite equipment, personnel and indirect costs associated with the project. *Learning to Look: Applications of Eye Tracking Research by the Indianapolis Museum of Art* will be executed over a 12 month period beginning July 1, 2011 and ending on June 31, 2012.

I. Assessment of Need

Every year museums welcome millions of visitors to their galleries and exhibitions with the hope that they will discover meaningful experiences that help them understand the world in new ways. Museum professionals spend a significant amount of time and effort studying the ways in which visitors engage with objects in their collections in order to improve the quality of interaction with them. Focus groups held at the Indianapolis Museum of Art (IMA) and elsewhere indicate that visitors see art museums as places for “inspiration” and “contemplation;” however, obtaining a more concrete understanding of what aspects of a visit are found to be inspiring and how museums can actively promote and encourage those experiences remain some of the field’s biggest challenges.

While some visitors clearly have meaningful experiences with objects, research shows the average visitor spends only seconds in front of a work of art. In his text, *Learning in the Museum*, George E. Hein, Professor Emeritus in the Graduate School of Arts and Social Sciences and Senior Research Associate at the Program Evaluation and Research Group at Lesley University, states that:

Empirical data supports the view that visitors spend little time at individual exhibit components (often a matter of a few seconds and seldom as much as one minute); seldom read labels; usually stop at less than half the components at an exhibit; are more likely to use trial-and-error methods at interactive exhibits than to read instructions; that children are more likely to engage with interactive exhibits than adults, and that attention to exhibits declines sharply after about half an hour.¹

Studies of 150 visitors at the Metropolitan Museum of Art² found a mean time of less than 30 seconds viewing an object to be typical, with most spending significantly less time. Douglas Worts, former interpretive planner and audience researcher at the Art Gallery of Ontario and museologist, summarizes this behavior as “grazing” and theorizes that the pattern may arise from a mismatch in the goals of curators and visitors.

Audience research across the field commonly reveals the characteristic behavior of “grazing” – or wandering slowly past many artworks, spending only seconds looking at any work in particular. It is relatively rare to watch a visitor spend more than a minute with any individual artwork.³

These reports have motivated IMA’s own examination of viewing patterns in the gallery in a multi-year effort called *The Viewing Project*, which seeks to encourage active looking, to support visitor creativity and engagement, and to present objects from the permanent collection in new ways. Evaluations from the project’s installations studied in-gallery viewing behaviors and found that “time spent looking” typically averages between 12 and 35 seconds. While some significant improvements in engagement have been realized during the course of the project, a quantitative link between looking and engagement remains elusive; measuring that “time spent looking” is a time-intensive, human process.

Research by Abigail Housen and Philip Yenawine asserts that creating repeated opportunities for people to look carefully at and discuss works of art can boost critical thinking and language skills and build personal connections with art. This requires more time spent with “eyes on canvas” and their facilitated discussion protocol, Visual Thinking Strategies, supports that extended looking. Are there ways to lengthen the time spent looking without a facilitator? Can choices made by curators and exhibition designers better support extended looking by average visitors? Can understanding what a visitor actually sees when they look at an art object help us make better decisions about display and information resources? Answering these questions is a primary goal of *The Viewing Project*.

¹ *Learning in the Museum* by George E. Hein, Routledge, 1998, p. 138.

² “Spending Time on Art” by Jeffrey K. Smith and Lisa F. Smith in *Empirical Studies of the Arts*, Vol 19, Number 2, 2001.

³ “On the Brink of Irrelevance? Art Museums in Contemporary Society” by Douglas Worts in *Researching Visual Arts Education in Museums and Galleries: An International Reader*, edited by Les Tickle, Veronica Sekules, Maria Xanthoudaki, Dordrecht: Kluwer Academic Publishers, 2003.

The IMA will utilize its experience in visitor research and expand upon preliminary findings from *The Viewing Project* to implement the proposed project. By conducting a series of controlled experiments that utilizes eye tracking technology, the IMA will determine if such methods provide useful tools for improving visitor experience.

The Potential for Eye Tracking

Techniques for measuring gaze have been an important part of cognitive psychology and many other fields of study since the early 1960's. Environmental scans by Rayner in 1978⁴ and again in 1998⁵ summarize the scope and evolution of research linking eye tracking and cognition. Agreement in the research suggests that gaze and attention are tightly coupled (Hoffman 98)⁶ implying a direct relationship between the way we look at museum objects and our thinking about them. Research by Wooding⁷ in 2002 examines the use of eye tracking systems and art from the collection of the National Gallery in London. While the data seems promising, Wooding's work focused more on a generalized method for visualizing eye tracking data and not on specific applications of these techniques for art history or museology. Automated scientific equipment for eye tracking became more widely available in the 1970's, but involved complex and expensive hardware and often constrained the user's head movement. More advanced eye tracking systems were developed later which were head-mounted and worn like goggles or glasses. These systems allowed users to move their heads freely and supported more a mobile study of eye tracking. While these systems were an important improvement over immobilizing the user's head, they still required detailed calibration and cumbersome equipment to be worn by visitors. Recently several newer systems⁸ ⁹ have become commercially available which feature small and discrete cameras in addition to software-based systems which can detect and track a user's eyes without the need for head-mounted devices¹⁰. These systems also feature much more friendly calibration schemes and would seem to overcome many of the concerns regarding the use of such equipment in a museum setting.

While still somewhat expensive, these new tools offer – for the first time – the ability for museums to directly study what our visitors are looking at when they spend time with a work of art. There are many potential applications of this technology which have yet to be tried by museums which may yield discoveries that will increase museum understanding and lead to improved visitor experience. Future eye tracking technology will likely include software-only systems which will run on common laptops and desktop computers. Several academic software tools already exist that attempt to track gaze in this way. These systems are still largely experimental at this stage and lack the accuracy and ease-of-use for routine deployment in galleries.

Museums have the opportunity now to explore and model a number of ways in which eye tracking techniques can be used to improve visitor experience allowing them to exploit those advances as hardware costs continue to fall, and as software-based systems become more common. Eye tracking has the potential to transform the ways we understand visual processing in the arts and at the same time offers a direct way of studying several important factors of a museum visit.

II. Project Design

Seeking to explore useful and practical means of applying eye tracking technology to common problems faced by museums, the IMA proposes a series of three experiments be conducted as part of this project which will demonstrate the usefulness and any potential barriers to wide adoption of eye tracking technology by museums.

⁴ Rayner, K. (1978). Eye movements in reading and information processing. *Psychological Bulletin*.

⁵ Rayner, K. (1998). Eye movements in reading and information processing: 20 years of research. *Psychological Bulletin*.

⁶ Hoffman, J. E. (1998). Visual attention and eye movements. In H. Pashler (ed.), *Attention* (pp. 119–154). Hove, UK: Psychology Press

⁷ Wooding, D. (2002). Fixation maps: quantifying eye-movement traces. In *Proceedings of the 2002 symposium on Eye tracking research & applications (ETRA '02)*. ACM, New York, NY, USA, 31-36.

⁸ <http://www.tobii.com/>

⁹ <http://www.eyetechds.com/>

¹⁰ <http://thirtysixthspan.com/openEyes/>

Staff from the Museum's technology, education, and media departments will collaborate to design, create, execute, and evaluate each experiment. Technology staff will provide any assistance with hardware configuration or software design needed. Educators will conduct discussion sessions with visitors. In addition to a whitepaper produced at the end of the project, the IMA will use its blog and social media channels to share about the preparations and results of each experiment as they are conducted over the course of a one year period.

Subjects for experiments will be recruited from the IMA's internship and volunteer programs, as well as from among museum visitors. All subjects will be unpaid volunteers and will be required to sign a human subject release form explaining the nature of the experiments. A pre-participation questionnaire will be administered to gauge subjects' level of experience with art.

EXPERIMENT 1: Is eye tracking useful and practical for measuring visitor attention?

Museums have many different ways to measure gallery attendance. From hand clickers to beam counters and even thermal cameras, museum technology has become quite sophisticated; however, museums have made little progress towards understanding just what those visitors do once they enter the door. Museums are already studying the amount of time visitors spend with works in their collections, but these studies require a set of observational rubrics which are labor intensive and subjective. The ability to automatically measure the attention of visitors in front of a museum object would be a transformational metric for gallery design, collection management, and interpretive development in museums.

This experiment will attempt to use the eye tracking equipment to monitor the amount of time a visitor's eyes spend looking at a work of art, as opposed to reading label texts or people-watching, for example. It will be important to eliminate the calibration step as part of this experiment so that a visitor's normal patterns of viewing the art are not disrupted. To provide a baseline for these results, subjects will be observed and timed using the observation rubrics from *The Viewing Project* and then compared against the automated timing. Please see a full description of *The Viewing Project* in the supporting documents section of this proposal.

EXPERIMENT 2: Is eye tracking useful and practical for understanding how users look at art?

Based on previous research, IMA educators strongly believe that longer looking is the basis for all significant levels of critical thinking and aesthetic engagement. Using techniques from the Visual Thinking Strategies (VTS) system, educators regularly engage groups of visitors of all ages in interactive discussions as a means of drawing out visitor observations and interpretations of a work of art. While such discussions often provide unique insight into an individual's thoughts about a work of art, direct measurements of the connection between viewing and thinking are often difficult and subjective.

In this second experiment, the eye tracking equipment will be used to monitor a user's gaze during a typical VTS session facilitated by an IMA educator. A video recording (with audio) of the session will be made and synchronized with the data stream from the eye tracking hardware, allowing IMA staff to examine the connection between gaze and response. The experiment may reveal a valuable new way to study the impact of comments on looking and the ways in which visitors with varying levels of experience approach new objects in museum collections.

EXPERIMENT 3: Is eye tracking useful and practical for providing interpretive resources to visitors?

Many museums seek to engage visitors by creating a wide range of interactive exhibits that provide additional information and context to an object that cannot be communicated through traditional gallery labels. Many of these techniques are successful and valuable additions to the museum visit. In most cases, museums attempt to guess what information visitors will want to know, and in what context. Many museums are experimenting with distributing this content via a user's personal mobile device, many of which will allow users to access all of a museum's collection on-demand in the galleries. As museums continue to improve the user experience in accessing this content, is eye tracking an attractive alternative interface for engaging audiences?

The final experiment will track the user observing a particular work of art. A set of interpretive audio content will be developed for the work and keyed to locations on the artwork. The experiment will focus on finding ways to allow the user to access this content using gaze (i.e. looking at a preselected place in the artwork could automatically play an audio file). As one potential example, consider the portrait to the right of several Hoosier Group artists on display at the IMA. It's difficult for visitors unfamiliar with the Hoosier Group to know which artist is which. Using the eye tracking system, a simple glance at one of the gentlemen in the painting will cue an audio file with the artists name and short description.



Adams, Wayman – *the Art Jury*

How users perceive this interaction, and whether the gaze tracking “feels” natural or intrusive will be a primary factor in determining the success of using these techniques for delivering interpretive content. The IMA is aware of the potential lag that exists in the cognitive processing of audio relative to the visual processing that is reflected by gaze tracking. Subjects of this particular experiment will be surveyed after their session to measure the qualitative factors of the experience and provide feedback regarding the suitability of these techniques for in-gallery use. The IMA anticipates the results garnered from this experiment will leverage future research about the relative speeds of visual versus language-based thought and processing that would have the potential to benefit multiple disciplines.

Challenges and Barriers

A key factor to the wide adoption of this technology in museums will be in understanding and overcoming several potential barriers to adoption. An important output of this project will be the examination of these challenges and a reporting on the potential solutions and trade-offs associated with these techniques. Specifically, the project will look at factors related to the accuracy of the resulting data from the eye tracker under a number of circumstances. Understanding accuracy will put limits on the types of potential uses which are appropriate using current technology. Issues regarding user permission and privacy will be examined yielding concrete information regarding best-practice for integrating these methods into an unattended gallery experience. Factors regarding the types of calibration that are needed for the equipment, and whether or not uncalibrated use is even possible will be also examined. Appropriate lighting needs for the camera equipment will be determined and documented. These issues regarding lighting are particularly important for light-sensitive collections such as works on paper.

III. Innovation and Impact

It's clear that the recent advances in eye tracking technology hold significant promise for applications in museums that are currently untapped. Adoption of these techniques will first need a set of proven use cases before museums will feel comfortable investing in the equipment needed for eye tracking. The project's proposed experiments offer a broad examination of the appropriateness and application areas for the technology that can be implemented across a wide cross-section of museums. The results of these experiments may potentially reveal entire new fields of study and applications for museum management, fostering a deeper understanding of the cognitive processes of visitors in the gallery, and potentially offer an avenue for improved user-interface design to deliver interpretive resources.

While broad in their potential impact, these experiments are still feasible and realistic within the scope and funding of this particular grant. The project's documentation and publication plan will ensure that project staff will benefit from the findings of each experiment, and the general recommendations regarding practical matters and challenges to implementation will be described in detail. Staff members from the IMA will speak and write about the project findings in venues including the Museum Computer Network Conference, the International Conference of Museums and the Web, the National Arts Educators Association, and others. This project is a rare opportunity for museums to innovate current practices by integrating methods and techniques from across disciplines to uniquely

fulfill institutional missions and objectives. Museums seldom have the chance to lead the adoption of technology, and are often responding to external forces. By adopting tools ahead of the curve, this project affords a unique opportunity for the museum community to set a precedent for the professional use and application of eye tracking devices.

IV. Evaluation Plan

Evaluation Plan

The primary objective of this project is to determine the potential application of a new technology for the field of museums. The experiments outlined above will offer insight into which ways eye tracking technology and practice might best inform museum practice in terms of exhibition design, programmatic activities, and information delivery. Results of each experiment will be summarized and interpreted in written reports to be published on the IMA's website and promoted on the Museum's blog. These individual reports will be summarized and combined into a final project whitepaper that describes the findings of each experiment and outlines the benefits of this approach, as well as any outstanding challenges to adoption. Findings of each report will be evaluated in light of a desire for the adoption of these techniques by a broad cross-section of museums with a variety of experience and background with technology. The final whitepaper will make specific reference to the skill-sets and technology needs required to successfully apply these techniques in other settings.

V. Project Resources

Project Management

The IMA is uniquely positioned among museums to be effective in exploring the ways that eye tracking technology can be applied in museums, and to make recommendations regarding the potential applications and challenges inherent in using these techniques with visitors. As a recognized leader in the application of technology for museums, the IMA has a proven track record of openness and sharing as demonstrated in many of the technical collaborations pursued in the past several years. The IMA has played an important and ongoing role in the technical planning and execution of the Steve.Museum social tagging project since the inception of the Steve Research grant in 2006 through today. Presently the IMA is leading the technical efforts of both the Steve-in-Action software development project and also the T3: Text, Tags, Trust research grant. Each of these grants features a broad collaboration of important cultural partners and is dedicated to sharing both tools and research openly with the community.

In early 2009, the IMA founded the video streaming website, ArtBabble¹¹ as a place where museums can collaborate through the sharing of art-video online. A niche-content portal, ArtBabble plays an important role as a destination for video about art and has proven to be an effective tool for reaching new audiences. Now featuring 28 partners from across arts and culture sector, the IMA runs ArtBabble as an open collaborative and provides free hosting for every partner. In 2010, ArtBabble won the Best Overall Site award at the International Conference of Museums and the Web. The peer review panel had as much to say about the IMA as they did the ArtBabble website, "*the Indianapolis Museum of Art has stuck its collective chin forward and said it will lead in the issue of transparency ... bravo!*"

The IMA has a consistent commitment to producing and sharing the results of its efforts through the development and release of open-source software tools. Efforts such as the IMA Dashboard¹², TAP: The Museum Mobile Tour System¹³, and the tools released by the Steve.Museum¹⁴ project demonstrate the IMA's ability to execute and deliver results that benefit the larger community of museums. Members of the project team are highly sought presenters and authors as demonstrated in their track record of publication. This practice and history help ensure that the work

¹¹ <http://www.artbabble.org/>

¹² <http://dashboard.imamuseum.org/>

¹³ <http://code.google.com/p/tap-tours/>

¹⁴ <http://www.steve.museum/>

of this project will be well disseminated through the field of museums and able to be put into practice by a large segment of the community.

Implementation Schedule and Milestones

The project will be executed over a 12 month period beginning July 1, 2011 and ending on June 31, 2012. The project will be split into four phases to be completed in three month intervals throughout the 12 month period. The first three phases will be devoted to the experiments outlined in the project proposal with Experiment 1 being conducted starting in July, 2011; Experiment 2 beginning October, 2011; and Experiment 3 beginning January 2012. The final phase will be dedicated to the authoring and publication of a final project whitepaper. The authoring of the whitepaper will take place between April of 2012 and the project completion the following June. The whitepaper will benefit from the interim reports generated for each experimental milestone and will summarize the findings and outcomes of each experiment.

Key Personnel

- **Chief Information Officer and Project Director, Robert Stein (5 days)**
Project management, authoring, budgetary oversight, and supervision of overall project goals and deliverables
- **Director of Education and Co-Project Director, Linda Duke (3 days)**
Oversight of baseline evaluation for Experiment 1, authoring of reports, VTS Facilitation for Experiment 2
- **Assistant Director IMA Lab and Co-Project Director, Charles Moad (5 days)**
Detailed project management and technical facilitation of software development; authoring of reports
- **Senior New Media Producer, Daniel Beyer (2 days)**
Media creation tasks in support of Experiment 2
- **Tiffany Leason, Manager of Higher Education Programs & Research Assessment (3 days)**
Pre-participation questionnaire, analysis of video recording for Experiment 2, authoring of reports
- **Aileen Novick, Research & Evaluation Coordinator (3 days)**
Baseline evaluation of visitor attention for Experiment 1, analysis of video recording for Experiment 2, post-experience survey of participants for Experiment 3
- **Software Developer (7 days)**
4 days to become familiar with the system and software API's; 1 day for software integration for each experiment.

Budget

The total cost of the project is \$30,987 with \$25,000 requested from IMLS and \$6,097 committed by the IMA. Please see detailed budgets and budget justification for a complete description of expenditures.

Finding new ways to meaningfully engage visitors in objects is a perpetual challenge for museum professionals. Eye tracking technology provides a new avenue to understanding how visitors experience works of art. However, the museum field lacks sufficient research on how this technology can be meaningfully applied. The IMA is confident it is fully capable of leading the effort in determining whether such tools are effective for cultural institutions, and if so, what applications are most valuable to the museum community.

BUDGET FORM – PAGE ONE

- a. **Legal name** (5a from Face Sheet): Indianapolis Museum of Art, Inc.
- b. **Requested Grant Period from:** 7/1/2011 **Requested Grant Period Through:** 6/30/2012
- c. If this is a revised budget, indicate application/grant number:

Section A: Detailed Budget

a. Year: 1 2 3 4 b. Budget Detail for the Period From: 7/1/2011 Through: 6/30/2012

1. Salaries and Wages

Name/Title of Position	No.	Method of Cost Computation	\$ Grant Funds	\$ Cost Sharing	\$ Total
Stein / CIO and Proj. Dir Perm	1	(Salary/1,950 hrs) * 37.5 hrs	\$0.00	\$2,500.00	\$2,500.00
Duke / Dir. of Edu Perm	1	(Salary/1,950 hrs) * 22.5 hrs	\$1,039.00	\$0.00	\$1,039.00
Moad / Asst. Dir. IMA Lab Perm	1	(Salary/1,950 hrs) * 37.5 hrs	\$1,635.00	\$0.00	\$1,635.00
Beyer / Sr. Producer Perm	1	(Salary/1,950 hrs) * 15 hrs	\$292.00	\$0.00	\$292.00
Leason/Mgr. Research Perm	1	(Salary/1,950 hrs) * 7.5 hrs	\$158.00	\$0.00	\$158.00
Novick / Evaluation Cord. Perm	1	(Salary/1,950 hrs) * 22.5 hrs	\$0.00	\$360.00	\$360.00
Software Developer Perm	1	Blended rate \$33.33/hr * 52.5h	\$1,750.00	\$0.00	1750
SUBTOTALS			\$4,874.00	\$2,860.00	\$7,734.00

2. Fringe Benefits

Rate	% of	\$ Salary Base	\$ Grant Funds	\$ Cost Sharing	\$ Total
20	% of	\$4,874.00	\$975.00	\$0.00	\$975.00
20	% of	\$2,860.00	\$0.00	\$572.00	\$572.00
	% of				
SUBTOTALS			\$975.00	\$572.00	\$1,547.00

3. Consultant Fees

Name or Type of Consultant	No. of Days	Daily Rate of Compensation	\$ Grant Funds	\$ Cost Sharing	\$ Total
n/a	0	n/a	\$0.00	\$0.00	\$0.00

BUDGET FORM – PAGE TWO

4. Travel

From/To	No. Persons	No. Days	\$ Subsistence costs	\$Transportation costs	\$ Grant Funds	\$ Cost Sharing	\$ Total
RT Domestic Flights from Indy	2	6	\$1,000.00	\$1,000.00	\$2,000.00	\$0.00	\$2,000.00
SUBTOTALS							

5. Supplies and Materials

Item	Basis/Method of Cost Computation	\$ Grant Funds	\$ Cost Sharing	\$ Total
Eye Tracking Equip/Software	See attached quote - EyeTech	\$12,500.00	\$0.00	\$12,500.00
SUBTOTALS		\$12,500.00	\$0.00	\$0.00

6. Services

Item	Basis/Method of Cost Computation	\$ Grant Funds	\$ Cost Sharing	\$ Total
n/a	n/a	\$0.00	\$0.00	\$0.00
SUBTOTALS		\$0.00	\$0.00	\$0.00

BUDGET FORM – PAGE THREE

7. Student Support (for Laura Bush 21st Century Librarians program only)

Item	Basis/Method of Cost Computation	\$ Grant Funds	\$ Cost Sharing	\$ Total
n/a	n/a	\$0.00	\$0.00	\$0.00
SUBTOTALS		\$0.00	\$0.00	\$0.00

8. Other Costs

Item	Basis/Method of Cost Computation	\$ Grant Funds	\$ Cost Sharing	\$ Total
n/a	n/a	\$0.00	\$0.00	\$0.00
SUBTOTALS		\$0.00	\$0.00	\$0.00

9. Total Direct Costs

	\$ Grant Funds	\$ Cost Sharing	\$ Total
TOTALS (Add subtotals of items 1 - 8)	\$20,349.00	\$3,432.00	\$23,781.00

10. Indirect Costs

Read the instructions about Indirect Costs before completing this section. Check the appropriate box below and provide the information requested:

Current indirect cost rate(s) have been negotiated with a federal agency (for item A, indicate the name of the agency and date of agreement expiration; complete item B). Applicant chooses a rate not to exceed 15% of direct costs (complete item B).

Indirect cost proposal has been submitted to a federal agency but not yet negotiated (for item A, indicate the name of the agency and date of proposal; complete item B).

Item A: Name of federal agency: IMLS

Expiration Date: 6/30/2011

Proposal Date: 7/1/2009

Item B:

Rate		\$ Base	\$ Grant Funds	\$ Cost Sharing	\$ Total
93	% of	\$7,734.00	\$4,541.00	\$2,665.00	\$7,206.00
	% of				
	% of				
SUBTOTALS			\$4,541.00	\$2,665.00	\$7,206.00

11. Total Project Costs

	\$ Grant Funds	\$ Cost Sharing	\$ Total
PROJECT COST TOTALS (Direct and Indirect for Budget Period)	\$24,890.00	\$6,097.00	\$30,987.00
PROJECT COST TOTALS (Excluding Student Support)	\$0.00	\$0.00	\$0.00

BUDGET FORM: Section B, Summary Budget

	\$ IMLS	\$ Cost Share	\$ TOTAL COSTS
1. Salaries and Wages	\$4,874.00	\$2,860.00	\$7,734.00
2. Fringe Benefits	\$975.00	\$572.00	\$1,574.00
3. Consultant Fees	\$0.00	\$0.00	\$0.00
4. Travel	\$2,000.00	\$0.00	\$2,000.00
5. Supplies and Materials	\$12,500.00	\$0.00	\$0.00
6. Services	\$0.00	\$0.00	\$0.00
7. Student Support	\$0.00	\$0.00	\$0.00
8. Other Costs	\$0.00	\$0.00	\$0.00
TOTAL DIRECT COSTS (1-8)	\$20,349.00	\$3,432.00	\$23,781.00
9. Indirect Costs	\$4,541.00	\$2,665.00	\$7,206.00
TOTAL COSTS (Direct and Indirect)	\$24,890.00	\$6,097.00	\$30,987.00

Project Funding for the Entire Grant Period

1. Grant Funds Requested from IMLS	\$24,890.00
2. Cost Sharing:	
a. Applicant's Contribution	\$6,097.00
b. Kind Contribution	0
c. Other Federal Agencies*	0
d. TOTAL COST SHARING	\$6,097.00
3. TOTAL PROJECT FUNDING (1+2d)	\$30,987.00
Percentage of total project costs requested from IMLS	80 %

*If funding has been requested from another federal agency, indicate the agency's name:
n/a

Budget Justification

Salaries and Wages (\$4,874 requested, \$2,860 cost share)

The IMA will commit significant staff resources to the project. Robert Stein, Chief Information Officer, will serve as Project Director and commit one week to supervise the overall planning and execution of the project. Linda Duke, Director of Education, and Charles Moad, Assistant Director of IMA Lab, will serve as Co-Project Directors. Duke will commit three days to oversee evaluation of Experiment 1 and facilitate VTS. Moad will contribute one week to assist with technical facilitation, project oversight, and authoring of reports.

Daniel Beyer, Senior New Media Producer, will contribute two days to media creation in support of Experiment 2. Tiffany Leason, Manager of Higher Education and Research Assessment, will devote three days to the project to oversee evaluation and analysis of results. Aileen Novick, Research and Evaluation Coordinator, will contribute 3 days to assist with all facets of evaluation for the three experiments. One of the IMA's permanent software developers will devote 7 days to assist with development and integration of software for the project.

Personnel time for Stein and Novick will be covered by the IMA, with the remaining personnel expense underwritten by the proposed grant funds.

Fringe Benefits (\$975 requested, \$572 cost share)

Fringe benefits have been calculated based on 20% of the salary base and have been allocated according to the division of salaries outlined above.

Travel (\$2,000 requested)

Grant funds are requested to underwrite domestic travel and subsistence costs for Robert Stein or Linda Duke to present project findings at conferences. Possible venues include the Museum Computer Network Conference, the International Conference of Museums and the Web, the National Arts Educators Association Conference.

Supplies and Materials (\$12,500 requested)

Grant funds will support the purchase of eye tracking equipment. Please see the vendor quote in the supporting materials section.

Indirect Costs (\$4,541 requested, \$2,665 cost share)

In 2009, the IMA was provided a provisional rate of 93.18% for fiscal years 2010 and 2011 for all programs. The rates were based on total direct salaries and wages, excluding fringe benefits. Please see agreement in the supporting materials section.

Note: In regard to Section G of the Program Information Sheet, fiscal year 2009 represented an 18 month period, as the institution was transitioning from a calendar year to a June 30 fiscal year.

Organizational Profile

Mission

The mission of the Indianapolis Museum of Art (IMA) is “to serve the creative interests of its communities by fostering exploration of art, design, and the natural environment. The IMA promotes these interests through the collection, presentation, interpretation, and conservation of its artistic, historic, and environmental assets.”

Mission approved by the IMA Board of Governors on May 13, 2008.

From the IMA Board of Governors Meeting Minutes, approved June 16, 2008.

Service Area

The IMA continually strives to reach new audience segments that broaden the age, income, ethnicity, education level and geography of its current constituency. General visitorship is most concentrated in the Indianapolis Metropolitan Statistical Area (MSA); however, the IMA engages communities throughout the state and region with educational outreach, technology initiatives, and public programs. Visitors to the IMA’s campus consist primarily of adults ages 25-59, adults with children ages 5-12, seniors age 60 and older, and those with household incomes of \$50,000 and above. Secondary audiences by size include adults ages 18-24, and students ages 13-17. Consumers of online content represent all of these ages and demographics but tend to skew slightly younger. The IMA is gaining a strong national and international presence with projects such as ArtBabble and 100 Acres: The Virginia B. Fairbanks Art & Nature Park, as well as by receiving the distinguished honor of hosting of the U.S. Pavilion at the 2011 La Biennale di Venezia.

The IMA utilizes an audience tracking feature on the Dashboard, a transparency tool on the IMA’s website that provides measures of institutional performance and statistics related to everyday operations. The feature tracks Museum admissions by zip code and presents corresponding demographic data for the geographic area (<http://dashboard.imamuseum.org>).

History

On November 7, 1883, the first exhibition organized by the Art Association of Indianapolis debuted at the English Hotel on the downtown Indianapolis Circle. The success of that exhibition established the Art Association as a viable factor in the local cultural scene and led to more exhibitions, as well as lectures and eventually a campus featuring both a museum and an art school. Since the Art Association of Indianapolis changed its name to the Indianapolis Museum of Art in 1969—a precursor to its move the following year from its longtime home on the campus of the John Herron Art Institute at 16th and Pennsylvania streets into a new building at 38th Street and Michigan Road—the organization has evolved into one of ten largest and oldest encyclopedic art museums in the country. Encompassing 152 acres of gardens and grounds, today the IMA connects more than 400,000 visitors to artistic experiences each year with its Museum of Art, Oldfields-Lilly House & Gardens, 100 Acres: The Virginia B. Fairbanks Art & Nature Park, The Randall L. and Marianne W. Tobias Theater, Miller House and Garden, and an on-site conservation science laboratory.

List of Key Personnel (See attached curriculum vitae)

Lead Project Personnel

- Robert Stein, Chief Information Officer and Project Director
- Linda Duke, Director of Education and Co-Project Director
- Charles Moad, Assistant Director of IMA Lab and Co-Project Director

Other Key Project Personnel

- Daniel Beyer, Senior New Media Producer
- Tiffany Leason, Manager of Higher Education & Research Assessment
- Aileen Novick, Research and Assessment Coordinator
- Software Developer (specific staff member yet to be determined)

Robert J. Stein

The Indianapolis Museum of Art
4000 Michigan Road
Indianapolis, IN 46208
rstein@imamuseum.org

EMPLOYMENT HISTORY

Chief Information Officer, Indianapolis Museum of Art,
09/2006 - Present

MIS Project Manager, Indianapolis Museum of Art,
03/2006 – 09/2006

Assistant Director, Pervasive Technology Labs, Indiana University, 08/2004 – 03/2006

Senior Technical Lead, Pervasive Technology Labs, Indiana University,
04/2002 – 08/2004

Senior Visualization Programmer, National Center for Supercomputing Applications, 01/1997 – 04/2002

EDUCATION

B.S., Electrical and Computer Engineering, University of Illinois, 1996

PROFESSIONAL ACTIVITIES

- Secretary, Board Member, Museum Computer Network, 2008-Present
- 2009 *W3 Award, Silver for Art* – ArtBabble.org
- 2009 Best Practices Award Association of Mid-West Museums – For social media and transparency efforts
- 2009 AAM Media & Technology Gold Muse Award – Best Online Presence: ArtBabble.org
- 2008 AAM Media & Technology Gold Muse Award – Public Relations and Development: IMA Dashboard
- 2008 Best of the Web Museums and the Web: IMA Dashboard
- 2007 Finalist for Indy's Best and Brightest Awarded by Junior Achievement
- 2007 Awardee Indy's "40 under 40" by Indiana Business Journal

RECENT GRANT AWARDS

- ArtBabble.org, 2008, Ball Brothers Foundation, \$50,000
- Technical Director, Steve in Action, 2008-2011, IMLS National Leadership Grant, \$1,000,000
- Technical Director, T3: Text, Tags, Trust, 2008-2011, IMLS National Leadership Grant, \$1,000,000
- Project Director, Steve.Museum, 2006-2009, IMLS National Leadership Grant, \$384,784

SELECTED PAPERS & PRESENTATIONS

Demystifying the Mighty I.T., Holly Witchey, Douglas Hegley, Jack Ludden, Robert Stein, American Association of Museums Annual Meeting 2010, Los Angeles, CA, May 2010

Social Tagging and Museum Practice: A Survey, Susan Chun, Diana Folsom, Scott Sayer, Robert Stein, American Association of Museums Annual Meeting 2010, Los Angeles, CA, May 2010

ArtBabble: Exploring Collaborative Content and Niche Portals, Robert Stein, *Invited Speaker* - MuseumNext 2010, London, United Kingdom, April, 2010

TAP: A Hybrid CMS-Mobile Tour Architecture for multi-platform interactive content, Robert Stein, Daniel Incandela, Edward Bachtta, Demo - To Appear - Museums and the Web 2010, Denver, CO, April 2010

Breaking the Bottleneck: Using Pseudo-Wikis to Enable Rich Web Authoring for Non-Technical Staff Members, Robert Stein, Edward Bachtta, To Appear - Museums and the Web 2010, Denver, CO, April 2010

ArtBabble: A year's worth of lessons learned and thoughts about collaborative content platforms, Stein, Incandela, Miller, Burnette, Hart, Proctor, To Appear - Museums and the Web 2010, Denver, CO, April 2010

Visitors as Data: Creating a Reinforcing Relationship with User Engagement, Robert Stein, *Invited Speaker*, WebWise 2010, Denver, CO, March 2010

Ramping Up While Scaling Down - President's Roundtable, Sam Quigley, Michael Edson, Jim Maza, Robert Stein, *Invited Speaker*, Museum Computer Network 2009, Portland, OR, November 2009

ArtBabble: Play Art Loud!, Robert Stein, Case Study Showcase, Museum Computer Network 2009, Portland, OR, November 2009

Cloud Computing Primer: Steps for Using the Cloud in Your Museum, Charles Moad, Robert Stein, Ari Davidow, Museum Computer Network Conference 2009, Portland, OR, November 2009

User Generated Content: Examples from Two Sides of the Coin, Robert Stein, *Invited Speaker*, Association of Midwest Museums "Visitors Virtual Voice Workshop", Chicago, IL June, 2009

Museums and Cloud Computing: Ready for Primetime, or Just Vaporware? Charlie Moad, Robert Stein, Edward Bachtta, Museums and the Web 2009, Indianapolis, IN, April 2009

Seeking Balance in the Online Video Landscape, Daniel Incandela, Robert Stein, Museums and the Web 2009, Indianapolis, IN, April 2009

Institutional Dashboards: The How's and Why's of Transparency at the Indianapolis Museum of Art, Robert Stein, Museum Computer Network Conference, Washington D.C., November 2008

Should You Care About Social Tagging – Findings and Recommendations From Steve.Museum, Robert Stein, Susan Chun, Jennifer Trant, Museum Computer Network Conference, Washington D.C., November 2008

Building Exhibition Websites in Drupal, Robert Stein, Edward Bachtta, *Invited Workshop* - Museum Computer Network Conference, Washington D.C., November 2008

Agile Methods for Museum Project Management, Robert Stein, Willy Lee, Michael Jenkins, Museums and the Web 2008, Montreal, Canada, April 2008

Advanced Web Development: software strategies for online applications, Robert Stein, Charles Moad, Ed Bachtta, *Invited Workshop* - Museums and the Web 2008, Montreal, Canada, April 2008

Open Source, Open Access: New Models for Museums, Susan Chun, Robert Stein, Michael Jenkins, [The Digital Museum: A Think Guide](#), American Association of Museums, 2007

Web 2.0: Technologies and design strategies for robust online applications, Robert Stein, Charles Moad, *Invited Workshop* - Museums and the Web 2007, San Francisco, April 2007

Global Origins: A Tool for Connecting Museum Objects to Geography, Robert Stein, Museums and the Web 2007, San Francisco, April 2007

Social Tagging and Folksonomy: steve.museum and Access to Art, Jennifer Trant, Robert Stein, Matt Morgan, *Panelist* - Museum Computer Network Conference, Pasadena, November 2006

Featured in *Interactive Tabletop Exhibits in Museums and Galleries*, Tom Geller, IEEE Computer Graphics and Applications September / October 2006

Linda D. Duke

Home: 218 Berkley Road
Indianapolis, IN 46208
(317) 925-1514
Cell: 310-869-7398

Work: Indianapolis Museum of Art
4000 Michigan Road
Indianapolis, IN 46208
(317) 923-1331 ext. 207
Email: lduke@imamuseum.org

EDUCATION

University of Illinois, Urbana-Champaign
B.F.A. in the History of Art, 1973 (with studio minor)
M.A. in the History of Art, 1976

WORK EXPERIENCE

Director of Education & Visitor Experience, Indianapolis Museum of Art
March 2003 to present (with title change from "Director of Education" in early 2010)

Oversees and gives direction to public, educational, and partnership programs and the work of 12 full-time staff members, seven part-time staff members, and several hundred volunteers. Oversees the training and work of approximately 170 active docents.

Director of Education, UCLA Hammer Museum
October 2000 - February 2003

Responsible for all public programming and outreach, collaborative work with campus units and community organizations project development, administration of education funds.

Director of Education, Krannert Art Museum and Kinkead Pavilion, University of Illinois, Urbana-Champaign
Assistant Professor, School of Art and Design, University of Illinois, Urbana-Champaign
September 1991 - August 2000

Research fellow, Visual Understanding in Education, New York, NY
1997 - 1998 academic year

Led workshops for staff members and docents at art museums around the U.S., and wrote reports on data from VUE research sites in the U.S and abroad.

Specialist in Art History at Illinois Wesleyan University, Bloomington.
1988 - 1991

Taught survey of world art history and introduction to Asian art courses.

Educator, then Project Director, N.E.H.-funded exhibition and catalogue *Sacred Mountains in Chinese Art*, Krannert Art Museum
1988 - 1991

Visiting Lecturer at the University of Illinois, U-C, School of Art and Design

Spring semesters, 1985, 1987, 1991

AWARDS, RECOGNITIONS, and RECENT NATIONAL CONVERSATIONS

Visitor Studies Association Annual Meeting, Phoenix, AZ

July, 2010

Co-presented a session on research related to The Viewing project, a series of experimental installations of permanent collection objects.

Art Museums and Medical Education Symposium at Harvard Art Museum,

November, 2009

Presented a session called Listening to Medical and Nursing Students on the use of facilitated gallery discussions with these groups at the IMA.

Affiliate Fellowship at the American Academy in Rome, September-October, 2009

Carried out a research interview project at the Academy, exploring aesthetic experiences with works of art, architecture, gardens, and food.

White House Meetings, June 2009, & June 2010

Participant in invitational White House meetings on accessibility to the arts and museums with Kareem Dale, Special Assistant to the President on Disability Policy

Guest Nominator, Project Zero: 2006

Invited to serve as a nominator for the Project Zero study, *The Qualities of Quality: Excellence in Arts Education and How to Achieve It*.

Museum Art Educator of the Year, Illinois Art Education Association: 1996

RECENT EXHIBITIONS CURATED and/or CONCEIVED

The Viewing Project, 2008-2011. Leads this three-year series of experimental installations of permanent collection objects based on the research and theory of Abigail Housen and funded in part by Art Mentor Foundation, Lucerne.

Star Studio installation/interactive projects: 2005 to present, at the IMA

Star Studio hosts a variety of contemporary artists. The 2008 installation of origami art by **Robert J. Lang** drew 29,000 visitors. Other Star Studio projects have featured the work of **Carla Hartman, Bing Davis, William Rasdell, E-Chen,** and **Amorphic Robot Works**. A 2007 collaboration with the IMA Conservation Laboratory allowed thousands of visitors to watch the restoration of an Italian Renaissance altarpiece. The fall, 2009 installation will feature films created by high school students who have worked over a period of 7 months with filmmaker **Julie Dash**.

Nature Holds My Camera: The Video Art of Sam Easterson, June 28-July 15, 2007

Conceived and "executive produced" this highly interactive exhibition with in-gallery and outdoor activities for children and adults.

CHARLES MOAD

Indianapolis Museum of Art
4000 Michigan Rd. Indianapolis, IN 46208
(317) 923-1331 x258
cmoad@imamuseum.org

PROFESSIONAL PREPARATION

Indiana University, Bloomington, IN
Indiana University, Bloomington, IN

Computer Science B.S.H. 2003
Computer Science M.S. 2004

PROFESSIONAL APPOINTMENTS

Assistant Director IMA Lab, Indianapolis Museum of Art Feb. 2010 - present
Lead the application development team towards providing open-source and reusable solutions for the IMA and the cultural community as a whole. Partner in the IMA effort to provide museum technology consulting services.

Applications Developer, Indianapolis Museum of Art Sept. 2006 - Feb. 2010
Provided integration solutions for digital and collections management systems. Organized software development of IMLS funded grants. Developed custom applications for in-gallery and online visitor experience.

Associate Researcher, Scientific Data Analysis Lab Dec. 2003 - Sept. 2006
Pervasive Technology Labs of Indiana University
Developed custom software solution with university scientists to advance their research. Developed visualization solutions for scientific data, including medical imaging and large-scale weather simulations. Implemented client/server software solutions utilizing Web Service and Grid components.

Senior Partner, Acquired Science LLC Dec. 2003 - Sept. 2006
Provided custom visualization software solutions for Wright Patterson AFB Materials Lab. Upgraded interactive molecular docking application.

PUBLICATIONS AND PRESENTATIONS

Charles Moad, Ed Bachta, Kris Arnold, Matt Gipson, "TAP: A Mobile Tour Platform and Strategy for Museum Mobile Content", Museum Computer Network Conference 2010

Charles Moad, Robert Stein, Ari Davidow, "Cloud Computing Primer: Steps for Using the Cloud in Your Museum", Museum Computer Network Conference 2009

Charlie Moad, Robert Stein, Edward Bachta, "Museums and Cloud Computing: Ready for Primetime, or Just Vaporware?", Museums and the Web 2009

Robert Stein, Charles Moad, Ed Bachta, Invited Workshop, "Advanced Web Development: software strategies for online applications", Museums and the Web 2008

Robert Stein, Charles Moad, Invited Workshop, "Web 2.0: Technologies and design strategies for robust online applications", Museums and the Web 2007

R. D. Wampler, A. J. Moad, C. W. Moad, R. Heiland, and G. J. Simpson, "Visual Methods for Interpreting Optical Nonlinearity at the Molecular Level", *Accounts of Chemical Research*, Vol 40, Issue 10, 2007

A. Moad, C. Moad, J. Perry, R. Wampler, G.S. Goeken, N. Begue, T. Shen, R. Heiland, G. Simpson, "NLOPredict: Visualization and data analysis software for nonlinear optics", *Journal of Computational Chemistry*, 2007

B. Peters, C. Moad, E. Youn, K. Buffington, R. Heiland, S.D. Mooney, "Identification of Similar Regions of Protein Structures Using Integrated Sequence and Structure Analysis Tools", *BMC Structural Biology* 2006, 6:4

J. Dantzer, C. Moad, R. Heiland, S. Mooney, "MutDB services: interactive structural analysis of mutation data", *Nucleic Acids Research*, Vol 33, July 2005

Heiland, R., C. Moad, and S. Mooney, "Python-based Tools and Web Services for Structural Bioinformatics", presented at SciPy (Scientific Tools for Python) Conference, Caltech, 2004.

Crosetto, C, K. Dunker, T. Le Gall, R. Heiland, and C. Moad. "MolNav: A Tool for Visualizing Protein Disorder." Poster presentation at the 1st Annual Indiana Bioinformatics Conference, Indianapolis, May 27, 2004

Plale, B., C. Jacobs, S. Jensen, Y. Liu, C. Moad, R. Parab, and P. Vaidya, "Understanding Grid Resource Information Management through a Synthetic Database Benchmark/Workload", 4th IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid2004), April 2004.

Gannon, D., J. Alameda, O. Chipara, M. Christie, V. Dukle, L. Fang, M. Farellee, G. Fox, S. Hampton, G. Kandaswamy, D. Kodeboyina, C. Moad, M. Pierce, B. Plale, A. Rossi, Y. Simmhan, A. Sarangi, A. Slominski, S. Shirasauna, T. Thomas, "Building Grid Portal Applications from a Web-Service Component Architecture", *Proceedings of the IEEE*, invited paper submitted April 2004.

Moad, C. and B. Plale, "Portal Access to Parallel Visualization of Scientific Data on the Grid", *Indiana University Computer Science Technical Report TR-492*, February 2004.

Plale, B., C. Jacobs, Y. Liu, C. Moad, R. Parab, P. Vaidya, and N. Vijaykumar "Understanding Grid Resource Information Management through a Synthetic Database Benchmark/Workload", poster at International Conference on High Performance Computing (HiPC), Hyderabad, India, December 2003.

Plale, B., C. Jacobs, Y. Liu, C. Moad, R. Parab, and P. Vaidya, "Benchmark Details of Synthetic Database Benchmark/Workload for Grid Resource Information", *Indiana University Computer Science Technical Report TR-583*, August 2003.

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DANIEL J. BEYER

Education

2004 – 2007 Ball State University
Bachelor of Arts in Telecommunications

Work Experience

2010 – Present Indianapolis Museum of Art Indianapolis, IN
Senior New Media Producer

- Responsible for media production related to permanent collections, temporary exhibitions, and public programs, encompassing the roles of idea development, script writer, videographer, editor, and distributor of final program to the Museum's various platforms (in-gallery, mobile tour, website, and other online portals)
- Work with curators to create video content for the permanent collection
- Oversee and create the TAP mobile tours for temporary exhibitions including Andy Warhol Enterprises, Tara Donovan: Untitled, and Sacred Spain
- Supervise New Media interns
- Directed 30 minute documentary on contemporary artists Type A
- Assist with exhibition development
- Contribute to museum blog with video content
- Create concepts for and produce TV and Radio Spots for museum exhibitions
- Purchase and maintain video equipment

2008 – 2010 Indianapolis Museum of Art Indianapolis, IN
New Media Producer

- Interview visiting artists for the In The Factory series
- Part of the team who created ArtBabble
- Oversee the Museum's youtube and ArtBabble pages
- Created various fundraising videos for the Museum

Fall 2007 Indianapolis Museum of Art Indianapolis, IN
New Media Intern (20 hrs/wk)

- Created 10 Employee Profile videos
- Contributed to the Roman Art from the Louvre Webisodes

Fall 2007 Pacers Sports & Entertainment Indianapolis, IN
Broadcast Production Intern (20 hrs/wk)

- Served as production assistant for Pacers television network broadcasts
- Logged all Pacers game and production tapes

- Grip work for location shoots

Computer Skills

- Windows and Macintosh Operating System
- Final Cut Pro, Premiere, Garageband, Soundbooth, Encore, Aftereffects
- Photoshop
- Microsoft Office, Google Docs
- Apple – iPods, iPhones, iTunes, iMovie, Quicktime Pro
- Digitization of audiovisual material HD and SD
- Digital Photography, Filming

Tiffany Leason

1310 N. Dequincy St.
Indianapolis, IN 46201

(317) 356-6598
tleason@imamuseum.org

PROFESSIONAL EXPERIENCE

Indianapolis Museum of Art, Indianapolis, IN 2006 to Present
MANAGER OF HIGHER EDUCATION PROGRAMS AND RESEARCH ASSESSMENT (2009)

Responsibilities:

Develop and manage collaborations with and offerings for college / university audiences. Manage the IMA's Internship Program. Coordinate on-going research and evaluation of the Museum's educational programs. Serve as a member of The Viewing Project Team, act as its primary advisor on data collection, oversee administrative work related to the program and supervise the Research and Evaluation Coordinator for The Viewing Project.

Indianapolis Museum of Art, Indianapolis, IN
PROJECT ADMINISTRATOR (2008-2009)

Responsibilities:

Managed research and evaluation related to the visitor experience with The Viewing Project installations, a three-year series designed to activate the permanent collection. Trained interns to collect and analyze data. Conducted summative evaluation and organized a visitor panel to get feedback on the installations. Performed administrative duties including scheduling and inter-departmental communications. Acted as liaison to the MIS Department. Entered content for internal Web component and assisted with user acceptance testing of digital products.

Indianapolis Museum of Art, Indianapolis, IN
PROJECT COORDINATOR (2007-2008)

Responsibilities:

Provided administrative and managerial support for the [steve.museum](http://www.steve.museum) project (<http://www.steve.museum>), a collaboration with seven other museums researching social tagging and folksonomy in art museums. Supported working groups and the steering committee. Managed schedules which included tracking in-kind contributions. Handled project communications and meeting coordination. Recruited taggers and supported use of tagging environment. Assisted Project Director in preparation of reports and presentations to museum community.

Indianapolis Museum of Art, Indianapolis, IN
EDUCATION ASSISTANT (2007)

Responsibilities:

Provided assistance to the core team of curators, educators, and museum consultants. Actively participated in the exhibit development process. Ideation concerning exhibit title, method of delivery for label copy, and exhibit components. Administered formative and summative evaluation by conducting gallery observations and open-ended interviews with visitors. Assisted in researching and writing label copy.

Indianapolis Museum of Art, Indianapolis, IN
GALLERY HOST (2006)

Responsibilities:

Acted as a resource for visitor inquiries and participation in art activities. Maintained appearances of spaces where hands-on activity was encouraged. Conducted research and evaluation on visitor behavior in the galleries and trained other hosts on standards for collecting data as well. Observed over 2000 visitors. Produced label copy in English and Spanish.

The Children's Museum of Indianapolis, Indianapolis, IN
MUSEUM STORE MANAGER (2002-2005)

1997 to 2005

Responsibilities:

Responsible for museum store operation and staff of 17. Scheduled and motivated sales associates and volunteers. Conducted product knowledge and sales training seminars. Developed effective merchandising plans and ensured attainment of sales goals. Wrote advertising copy and expanded on-line merchandise catalog offerings to broaden unit exposure. Monitored inventory levels and assisted customers with all servicing needs. Hired, trained, and oversaw performance for all staff members. Oversaw operating budget.

SALES AND MERCHANDISE MANAGER (1998-2002)

Responsibilities:

Generated merchandising plans and ensured attainment of sales goals. Monitored inventory ordering of operational supplies, fixtures, and signage requirements. Produced and wrote marketing and advertising pieces. Maintained store computer system and assessed hardware and software needs. Hired, trained, and scheduled store staff. Ensured budget targets met.

ASSISTANT MANAGER (1998)

Responsibilities: Oversaw and supervised warehouse operations and personnel. Provided technical support and use of retail software. Prepared monthly financial reports and attended exhibit planning meetings.

ADMINISTRATIVE COORDINATOR (1997-1998)

Responsibilities:

Handled and administered all accounts payable and receivable. Actioned purchase orders and maintained accuracy of files. Directed annual and monthly inventory process and ensured quality control. Resolved invoice errors and shipment discrepancies. Generated inventory status reports.

CREDENTIALS

Education

Master of Arts – Museum Studies
Indiana University-Purdue University Indianapolis – Indianapolis, IN
Bachelor of Arts – Anthropology, Minors in Spanish and Sociology
Indiana University – Bloomington, IN

Presentations

Visitor Studies Association Conference 2010 – Aesthetic Experience as Public Value: The IMA's Viewing Project
Museums and the Web Conference 2009 – Steve in Action: Social Tagging Tools and Methods Applied Mini-Workshop
American Association of Museums Conference 2007 – Finding Tools to Create a New Museum Experience through Visitor
Evaluation at the Indianapolis Museum of Art - Poster Session

Publications

Leason, T. and steve.museum, Steve: The Art Museum Social Tagging Project: A Report on the Tag Contributor Experience.
In J. Trant and D. Bearman (eds). *Museums and the Web 2009: Proceedings*. Toronto: Archives & Museum Informatics.
Published March 31, 2009. <http://www.archimuse.com/mw2009/papers/leason/leason.html>

AILEEN M. NOVICK

5161 N. Park Ave. Indianapolis, IN 46205 (317) 504-4657 anovick@imamuseum.org

EDUCATION

Northeastern University, Boston, M.A., June 2003, Major: Public History
GPA: 3.96/4.0. Selected for membership in Phi Kappa Phi and Phi Alpha Theta Honor Societies. *Freer Award* for best academic performance for a graduating student in the Masters program.

Bates College, Lewiston, ME; B.A., May 1997, Major: History, focus: Early American
GPA: 3.84/4.0, Dean's List, all semesters, Honors in History, *summa cum laude* graduate, Phi Beta Kappa Member. *Charles A. Dana Scholarship*, one of Bates College's highest academic honors, awarded to students on the basis of leadership potential and academic excellence, 1994. *Ernest P. Muller Prize in History*, award based on the history department's collective judgment of the best senior thesis, 1997.

Williams College - Mystic Seaport Program, Mystic, CT

Intensive academic program focused on maritime issues. Classes included Maritime Literature, American Maritime History, Marine Policy, and Oceanography. Emphasis on individual research in history, policy, and science. January - May 1996.

WORK EXPERIENCE

Research and Evaluation Coordinator, Indianapolis Museum of Art, Indianapolis, IN
Conduct formative and summative evaluation through observations, interviews, surveys, and visitor panels. Collect, enter, and analyze data, which includes transcription of written and oral comments. Apply mathematical concepts and perform calculations in order to generate appropriate visual representations of data using Excel formulas. Assist with the presentation of findings. Enter contents for Viewing Project web site and monitor web comments. Maintain appearance and functionality of installation(s) on view. Schedule and document meetings, create object checklists for Viewing Project installations, organize information in shared project management software, maintain project schedules and budgets, complete and submit paperwork for exhibit development and design. Provide support and guidance to interns who assist in the collection and interpretation of data. August 31, 2009 to present.

Assistant Coordinator, Public Programs and National History Day in Indiana, Contract Position, Indiana Historical Society, Indianapolis, IN

Work with the Education Director to research, develop, implement and evaluate history-based educational programming for National History Day in Indiana. Communicate program goals and objectives to students, teachers and parents. Manage school registrations and payments, log student contest entries, and develop award sponsorships. Recruit volunteers to assist with 5 regional and state contests and help coordinate and manage contests. In addition, work with the Coordinator, Public Programs to provide research, development, implementation and evaluation of history-based educational programming for adult and family audiences at IHS and other venues around the state. December 17, 2007 to August 28, 2009.

Program Director, Historic Locust Grove, Louisville, KY

Plan and execute public programs for all audiences including a monthly lecture series, a chamber music series, 18th Century Market Fair, Spring Encampment of the Illinois Regiment of Virginia, Antique Fairs, Gardeners' Fair, Lewis & Clark Bicentennial Homecoming, Holiday Candlelight Tours, adult workshops, summer camps, and other public programs sponsored by the site. Focus on developing and maintaining rigorous and innovative education programs for school groups and adult groups. Market and promote school and public programs. Recruit, train, evaluate, manage and reward volunteer staff of docents, first-person interpreters, costumed demonstrators,

and guest services representatives. Research and interpret historical materials relating to the site. July 2004 to December 2007.

Editorial Assistant, Temporary Position, Yale Alumni Magazine, New Haven, CT
Assist the staff of the *Yale Alumni Magazine* with editing, fact checking, and research for bimonthly publication. Assist with subscription renewals and with problem subscriptions. Created an exhibit detailing the history of the magazine to appear at the Yale Club in New York City. Perform general office duties. October 2003 through June 2004.

Publishing Assistant, Yale University Press, New Haven, CT
Wrote reports on proposals and manuscripts. Conferred with authors on content, images, form and style. Tracked copy through editing and production stages. Coordinated production schedules to ensure printing deadlines. Created contract abstracts for agencies and authors. Served as principal source of information to staff, faculty, authors, publishing representatives, media booksellers, and other customers on policies, procedures, programs, and office activities. Represented Yale University Press at various academic conferences. Assisted with the planning of agendas for the Committee on Publications and Acquisitions Panels meetings. Oversaw the selection of interns and supervised their work. February 7, 2000 to September 20, 2001.

Assistant Editor, New England Historic Genealogical Society, Boston, MA
Assisted the Director of Publications by proofreading and formatting articles for the oldest genealogical quarterly journal in America, *The New England Historical and Genealogical Register*, as well as managing advertising for the journal. Edited and formatted manuscripts to be published by the society. Aided the editors with the management and production of the bi-monthly newsletter, *The Computer Genealogist* and the quarterly newsletter, *The Great Migration Newsletter*. Responsible for maintaining correspondence with the subscribers to the various publications, as well as publicizing the Society's periodicals and books, and updating the Publications Department's section of the web page. November 17, 1997 – January 28, 2000.

COMPUTER EXPERIENCE

Working knowledge of Macintosh and IBM operating systems, Microsoft Word, Word Perfect, Adobe PageMaker, Publisher, XyWrite, Excel, Benefactor, PastPerfect, Paradigm, Power Point, Front Page, and Internet research skills.

Internal Revenue Service

Department of the Treasury

P. O. Box 2508
Cincinnati, OH 45201

Date: May 22, 2003

Person to Contact:
Kathy Masters ID# 31-04015
Customer Service Representative
Toll Free Telephone Number:
8:00 a.m. to 6:30 p.m. EST
877-829-5500
Fax Number:
513-263-3756
Federal Identification Number:
35-0867955
-Accounting Period Ends:
December 31

Indianapolis Museum of Art, Inc.
4000 Michigan Road
Indianapolis, IN 46208-3326

Dear Sir or Madam:

This is in response to your request of May 22, 2003 regarding your organization's tax exempt status.

In July 1937 we issued a determination letter that recognized your organization as exempt from federal income tax. Our records indicate that your organization is currently exempt under section 501(c)(3) of the Internal Revenue Code.

We classified your organization as a publicly supported organization, and not a private foundation, because it is described in sections 509(a)(1) and 170(b)(1)(A)(vi) of the Code. This classification was based on the assumption that your organization's operations would continue as stated in the application. If your organization's purposes, character, method of operations, or sources of support have changed, please let us know so we can consider the effect of the change on the organization's exempt status and foundation status.

Your organization is required to file Form 990, *Return of Organization Exempt from Income Tax*, only if its gross receipts each year are normally more than \$25,000. If a return is required, it must be filed by the 15th day of the fifth month after the end of the organization's annual accounting period. The law imposes a penalty of \$20 a day, up to a maximum of \$10,000, when a return is filed late, unless there is reasonable cause for the delay.

As of January 1, 1984, your organization is liable for taxes under the Federal Insurance Contributions Act (social security taxes) on remuneration of \$100 or more the organization pays to each of its employees during a calendar year. There is no liability for the tax imposed under the Federal Unemployment Tax Act (FUTA).

Organizations that are not private foundations are not subject to the excise taxes under Chapter 42 of the Code. However, these organizations are not automatically exempt from other federal excise taxes. If you have any questions about excise, employment, or other federal taxes, please let us know.

Indianapolis Museum of Art, Inc.
35-0867955

Donors may deduct contributions to your organization as provided in section 170 of the Code.

Bequests, legacies, devises, transfers, or gifts to your organization or for its use are deductible for federal estate and gift tax purposes if they meet the applicable provisions of sections 2055, 2106, and 2522 of the Code.

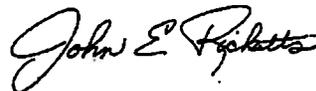
Your organization is not required to file federal income tax returns unless it is subject to the tax on unrelated business income under section 511 of the Code. If your organization is subject to this tax, it must file an income tax return on Form 990-T, *Exempt Organization Business Income Tax Return*. In this letter, we are not determining whether any of your organization's present or proposed activities are unrelated trade or business as defined in section 513 of the Code.

The law requires you to make your organization's annual return available for public inspection without charge for three years after the due date of the return. If your organization had a copy of its application for recognition of exemption on July 15, 1987, it is also required to make available for public inspection a copy of the exemption application, any supporting documents and the exemption letter to any individual who requests such documents in person or in writing. You can charge only a reasonable fee for reproduction and actual postage costs for the copied materials. The law does not require you to provide copies of public inspection documents that are widely available, such as by posting them on the Internet (World Wide Web). You may be liable for a penalty of \$20 a day for each day you do not make these documents available for public inspection (up to a maximum of \$10,000 in the case of an annual return).

Because this letter could help resolve any questions about your organization's exempt status and foundation status, you should keep it with the permanent records of the organization.

If you have questions, please call us at the telephone number shown in the heading of this letter.

Sincerely,



John E. Ricketts, Director, TE/GE
Customer Account Services

4000 Michigan Road
Indianapolis, IN 46208
t 317-923-1331
f 317-920-0399
imamuseum.org



November 15, 2010

Institute of Museum and Library Services
1800 M Street, NW, 9th Floor
Washington, DC 20036-5802

To the IMLS review panel:

On behalf of the Indianapolis Museum of Art (IMA) Board of Governors and staff, I am pleased to provide this letter of commitment for *Learning How Visitors Look: Applications of Eye Tracking Research by the Indianapolis Museum of Art*. The proposed project will allow the IMA to utilize leading-edge eye tracking technology to determine if such methods provide useful tools for improving visitor experience.

The IMA has conducted extensive research to understand how visitors look at works in its permanent collection of more than 54,000 objects. In 2008, the IMA launched *The Viewing Project*, a three-year series of small-scale installations designed to encourage active looking, to support visitor creativity and engagement, and to present objects from the permanent collection in new ways. The IMA will expand upon preliminary findings from *The Viewing Project* to implement the proposed project.

Through collaborative digital projects such as ArtBabble, the Dashboard, and the Steve project, the IMA continues to establish itself as a leader in the field of museum technology and is extremely capable of executing a project of this magnitude. I have the utmost confidence in my staff, particularly Project Director Robert Stein, to conduct thorough experiments that have great potential to present new research opportunities not only for the IMA, but the museum community as a whole.

I am honored to submit this application in the inaugural cycle of the Sparks! Ignition Grant program. The IMA shares in the Institute's commitment to challenging traditional methods in order to achieve true innovation in the museum field. *Learning How Visitors Look: Applications of Eye Tracking Research by the Indianapolis Museum of Art* will provide unprecedented research that will set a standard for studying visitor interaction with works of art in the future. Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Maxwell L. Anderson", is written over a horizontal line. The signature is fluid and cursive, with a long, sweeping underline that extends to the right.

Maxwell L. Anderson
The Melvin & Bren Simon Director and CEO



BALBOA PARK
ONLINE COLLABORATIVE
2131 Pan American Plaza · San Diego · CA · 92101
Phone: 619.819.5143 · Fax: 619.819.8230

November 9, 2010

Institute of Museum and Library Services
1800 M Street, NW, 9th Floor
Washington, DC 20036-5802

To the IMLS review panel:

It is with distinct pleasure that I write in support of the Indianapolis Museum of Art's application for the project titled, *Learning How Visitors Look: Applications of Eye Tracking Research by the Indianapolis Museum of Art*. The proposed project will allow the IMA to study visitor interaction and cognition of works of art through the use of eye-tracking software in the galleries of the IMA.

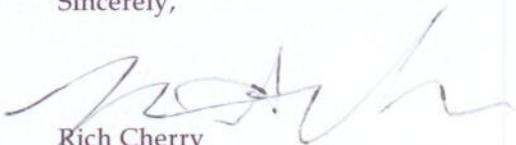
Eye and gaze tracking has the potential to transform the ways we understand visual processing in the arts and at the same time offers a direct way of studying several important factors of a museum visit. Because of cost, the technology has been limited to commercial applications and research such as Slavko Milekic's work at the University of the Arts in Philadelphia. However, as technology costs have continued to fall, and as software-based systems become more common and the technical ability of museums have increased, the need for museums to explore and deploy eye-tracking in house has become evident.

The Indianapolis Museum of Art has established itself as one of the leaders in the field of museum technology and is extremely capable of not only executing this project but also in making sure the tent of participants will be large and the dissemination wide. I have the utmost confidence in the Project Director, Robert Stein, and his team to implement and evaluate this project against the highest standards of our community.

The IMA has a long history of collaboration and experience in developing media and technology solutions. In 2009, the IMA created ArtBabble, a collaborative online video platform with 26 international museum and educational partners who create among the best online video content in the world (www.ArtBabble.org). As winner of the 2010 *Best Overall Site* from the International Meeting of Museums and the Web, and also winner of the 2009 *Gold MUSE Award for Online Presence* from the American Association of Museums, ArtBabble has received critical acclaim from peers in the museum field. At Balboa Park, we have used the Babble platform to develop video portals for the San Diego Hall of Champions Sports Museum and the WorldBeat Center. It is just one example of the many ways that IMA has led the field in developing new ways of engaging and delighting online visitors.

It is with great enthusiasm that I write in support of the IMA's application to the 2011 Museums for America program. *Learning How Visitors Look: Applications of Eye Tracking Research by the Indianapolis Museum of Art* will provide unparalleled access to multi-disciplinary content that will set a standard for future mobile museum tours. Thank you for your consideration.

Sincerely,



Rich Cherry
Director, Balboa Park Online Collaborative



Computational Linguistics and Information Processing Laboratory
University of Maryland Institute for Advanced Computer Studies

3161 AVWilliams Hall

University of Maryland

College Park, Maryland 20742

jklavans@umd.edu

<http://www.umiacs.umd.edu/research/t3/>

November 10, 2010

Institute of Museum and Library Services
1800 M Street, NW, 9th Floor
Washington, DC 20036-5802

I am writing to add my wholehearted endorsement of the Indianapolis Museum of Art's application for the project entitled, *Learning How Visitors Look: Applications of Eye Tracking Research by the Indianapolis Museum of Art*. I support this application on several dimensions:

- The proposing team has unusual qualifications to undertake this project.
- The Indianapolis Museum of Art has been at the lead in undertaking challenging projects to examine the relationship between the individual and the image she or he is viewing, both within the actual physical museum context as well as in the digital context.
- The project lead members have an exceptional record of designing creative yet realistic projects that have made a substantial and visible contribution to the museum and image community at large.

I make these strong statements based on direct experience with Rob Stein, the project lead for this proposal, and his staff at IMA. I have been working with Rob and members of the IMA technical staff for over two years as part of the IMLS-Funded project entitled "T³: Terms, Tags and Trust". T³ is a collaborative, cross-disciplinary project comprised of academic researchers, digital librarians, and museum professionals. We are exploring the application of techniques from computational linguistics and social tagging to the creation of linkages between the formal academic language of museums and the vernacular language of social tagging. Thus, I have been working closely with Rob on many of the conceptual, cognitive and technical aspects of a large longer-term project; I have had the opportunity to observe his approach to research and applications throughout this period.

The use of eye-trackers in museums has been an understudied area for several reasons. First, the equipment is expensive, which is the reason for this proposal. Second, the technological skills required to utilize the many features of eye-trackers are often difficult to obtain in the museum setting without out-sourcing to those who may not fully understand the mission of the museum professional. Finally and perhaps most importantly, interpretation of the results in terms of museum needs is a complex task, and one that requires a high level of

computer engineering skill combined with an understanding of the needs of museums. This is a rare combination of skills but one that Stein and his group at IMA possess.

In the little research I have done in the area of eye-tracking, the only reliable studies I could find were from Wooding and colleagues who installed an autonomous eye tracker in the National Gallery in London, and collected data from over 5000 subjects looking at images of works (Wooding et al. 2002). However, their primary interest was from the image-gaze perspective. They found that only a small set of regions in a work of art were reliably fixated by viewers but this research was not linked to art history theory, to type of image, to image location in context, nor to cognitive theory for the museum-goer. Although Wooding and his colleagues created a valuable topic-fixation landscape map which reflected where gaze occurred, this map was not associated with other factors known to museum professionals to be important in gaze fixation. Similarly, most of the research in eye-tracking is done outside the context of the museum perspective, and certainly without the goal of understanding ways to improve the user's experience. Rather the goal is to understand eye-gaze solely in a theoretical fashion. In a more recent study within the context of the T³ project, Golbeck et al. (under review) selected six images covering a range of subjects and periods. The purpose of this study was to analyze tag type and tag order as a function of image type and tag type. Translation of these findings into the museum experience is a natural next step, and one that requires the expertise of groups such as those at the IMA.

The proposed project will allow the IMA to study visitor interaction and cognition of works of art through the use of eye-tracking software in the galleries of the IMA. The IMA has conducted extensive work to understand how the visitor looks in the gallery, and has the opportunity now to explore and model a number of ways in which eye tracking can be used to improve visitor experience which will allow us to deploy those techniques widely as technology costs continue to fall, and as software-based systems become more common. Eye tracking has the potential to transform the ways we understand visual processing in the arts and at the same time offers a direct way of studying several important factors of a museum visit.

The IMA has a long history of collaboration and experience in developing media and technology solutions. In 2009, the IMA created ArtBabble, a collaborative online video platform with 26 international museum and educational partners who create among the best online video content in the world (www.ArtBabble.org). As winner of the 2010 *Best Overall Site* from the International Meeting of Museums and the Web, and also winner of the 2009 *Gold MUSE Award for Online Presence* from the American Association of Museums, ArtBabble has received critical acclaim from peers in the museum field. This site reflects the creativity of Stein's group as well as the technical expertise.

The proposed project on *Learning How Visitors Look: Applications of Eye Tracking Research by the Indianapolis Museum of Art* will provide unparalleled access to multi-disciplinary content that will set a standard for future mobile museum tours.

Sincerely,



Judith L. Klavans, Ph.D.
Senior Research Scientist



November 8, 2010

Institute of Museum and Library Services
1800 M Street, NW, 9th Floor
Washington, DC 20036-5802

To the IMLS review panel:

It is with distinct pleasure that I write in support of the Indianapolis Museum of Art's application for the project entitled, *Learning How Visitors Look: Applications of Eye Tracking Research by the Indianapolis Museum of Art*. The proposed project will allow the IMA to study visitor interaction and cognition of works of art through the use of eye-tracking software in the galleries of the IMA.

The IMA has conducted extensive work to understand how the visitor looks in the gallery, and has the opportunity now to explore and model a number of ways in which eye tracking can be used to improve visitor experience which will allow us to deploy those techniques widely as technology costs continue to fall, and as software-based systems become more common. Eye tracking has the potential to transform the ways we understand visual processing in the arts and at the same time offers a direct way of studying several important factors of a museum visit. Contributions like these benefit, not only the IMA, but the entire field.

The IMA has a long history of collaboration and experience in developing media and technology solutions. In 2009, the IMA created ArtBabble, a collaborative online video platform with 26 international museum and educational partners who create among the best online video content in the world (www.ArtBabble.org). As winner of the 2010 *Best Overall Site* from the International Meeting of Museums and the Web, and also winner of the 2009 *Gold MUSE Award for Online Presence* from the American Association of Museums, ArtBabble has received critical acclaim from peers in the museum field.

The Indianapolis Museum of Art, continues to establish itself as one of the leaders in the field of museum technology, and is extremely capable of executing a project of this magnitude. I have the utmost confidence in the Project Director, Robert Stein, and his team to implement and evaluate this project against the highest standards of our community.

It is with great enthusiasm that I write in support of the IMA's application to the 2011 Museums for America program. *Learning How Visitors Look: Applications of Eye Tracking Research by the Indianapolis Museum of Art* will provide unparalleled access to multi-disciplinary content that will set a standard for future mobile museum tours. Thank you for your consideration.

Sincerely,

A handwritten signature in cursive script, appearing to read "Casey Steadman".

Casey Steadman,
Chief Operating Officer

csteadman@atlantahistorycenter.com



1128 E. Greenway Street, Suite 1
 Mesa AZ 85203
 United States
 888-539-3832
 www.eyetechds.com

Quote

Date 11/8/2010
Quote # QUOTE-0578

Expires 12/8/2010
Terms Prepay
Ship Via UPS Ground
shipping phone

Bill To

4000 Michigan Rd

Ship To

4000 Michigan Rd

Item	HCPCS	Quantity	Description	Unit Price	Extension
EyeTech VT2 w/larger field of view+Qck Exhibit+Qck LinkAPI		1	EyeTech VT2 for Larger monitors w/larger field of view. Includes: Quick Exhibit Quickl Link API Vision Tracker	19,980.00	19,980.00
Misc. discount		1	Developer and University Discount	-7,532.00	-7,532.00
EyeTech TM3 long laptop stand		1	TM3 long laptop stand	0.00	0.00
VT1 VESA Plate for Desktop Monitor		1	VESA plate for mounting TM3 under VESA monitor (up to 30" widescreen)	0.00	0.00
Screws and spacers for VESA MT		1	Screws and spacers for VESA mount.	0.00	0.00
6 ft 6 to 6 pin firewire		1	6 ft 6 to 6 pin firewire	0.00	0.00
3 foot 6 to 4 pin firewire cable		1	3 ft firewire cable 6 TO 4 pin	0.00	0.00
International power supply		1	Power cord with international wall adapter. 2 year hardware warranty included Unlimited Quick Glance software upgrades included	0.00	0.00
Manual in English w/USB Flash Drive		1	Manual in English w/USB Flash Drive	0.00	0.00
Custom		1	60 Day Money Back Guarantee	0.00	0.00

Bank Wire Instructions --
 BENEFICIARY: EyeTech Digital Systems, Inc.;
 BANK: Wells Fargo Bank NA,
 Orange Tree Plaza Branch,
 1954 E. McKellips Road, Mesa, AZ 85203;
 1-480-835-9741;
 ACCOUNT NUMBER: 7605582498;
 ROUTING NUMBER (RTN): 121000248;

Subtotal 12,448.00
Shipping Cost (UPS Ground) 35.00
Total \$12,483.00

IMA PERMANENT COLLECTION INSTALLATION PROJECT*The Viewing Project***OVERVIEW**

The Viewing Project (VP) is a series of experimental installations comprised of objects from the permanent collection of the Indianapolis Museum of Art. The project is funded in part by a generous grant from ART MENTOR FOUNDATION LUCERNE and aims to support visitors as they find meanings that matter to them in art works from different times and places. Although themes vary, the main goals of all *Viewing Project* installations remain constant: to encourage active looking, to support visitor creativity and engagement, and to present objects from the permanent collection in new ways.

Over the course of three years, *The Viewing Project* will feature 60 to 70 works of art from every area of the permanent collection (Africa, Asia, Europe, and the Americas), spanning many time periods and in various media. Each installation features carefully selected groupings of art works, displayed to highlight one of several distinct art-viewing pleasures. These have been identified in studies of viewers' interests and include: the discovery of possible narratives; examination of details that evidence craftsmanship, materials, and design; and discernment of spatial relationships (or spatial ambiguities) in a work of art. Each installation remains on view for approximately six months. A keynote piece, Bill Viola's *The Quintet of the Silent*, is on view for the entire three-year cycle.

BACKGROUND

The Viewing Project's cross-departmental organizing team—curators, educators, designers and technology team members—have drawn significant inspiration from the work of Abigail Housen, a Harvard-trained psychologist who has studied art viewers around the world for over 30 years. Because art museums attract visitors with a wide range of viewing experience, from novices to experts, her findings about people's aesthetic thinking—the kinds of thinking they employ when they look for meaning in a work of art—offer highly practical information. Dr. Housen's work demonstrates that people at every experience level have important aesthetic experiences and exercise keen intelligence in the process of viewing art. Although the stage model that emerged from Housen's research has been utilized by many museums in gallery tour techniques and educational partnerships with schools, it has not often been applied to gallery didactics and installation design – elements the project team has termed “information architecture” – in order to support and encourage active looking and thinking about art. By using several layers of information, *The Viewing Project* aims to appeal to visitors with a wide range of viewing experience.

The research of Douglas Worts at the Art Gallery of Ontario provided additional inspiration for *The Viewing Project* team. Worts and his colleagues found compelling evidence that, for many visitors, the application of their own imaginative and critical thinking to the art viewing experience was more satisfying than simply “learning” about the works in a standard way

from wall texts or audio tours. Worts provided the evaluation framework used for *The Viewing Project*.

ORGANIZATION

The Viewing Project was developed by a project team consisting of two curators and an educator. The current team includes two original members and five new members. Linda Duke, Director of Education and Visitor Experience, Annette Schlagenhauff, Associate Curator for Research were part of the original team. Additional team members now include Emily Hansen, Senior Coordinator of Teacher and School Programs; Tiffany Leason, Manager of Higher Education Programs and Research Assessment; Phillip Lynam, Manager of Art and Design Education; Aileen Novick, Research and Evaluation Coordinator; and David Russick, Chief Designer.

Early on, the original project team worked with DRS, a Los Angeles design firm, to develop a preliminary exhibit style guide. Work with DRS provided an opportunity for IMA professionals from Curatorial, Education and Design departments to explore issues of importance for their respective fields in the practical context of a specific exhibition's development. More recently, changes at the IMA are allowing designers from various areas – graphic, multi-media, and installation – to work together more productively as the Design Studio. *The Viewing Project* has been adopted by this cross-departmental design group as an on-going laboratory for their work.

Abigail Housen and Philip Yenawine have served as consultants. Museum evaluators Randi Korn (RK&A) and Andrew Pekarik (Smithsonian Institution) have also been involved and have an on-going interest in this work. The IMA has engaged Dr. Elizabeth Wood, Public Scholar and Assistant Professor of Museum Studies and Teacher Education at IUPUI, to help structure research and analysis of *The Viewing Project* installations. As of October, 2010, Dr. Wood has facilitated two visitor panels and has provided feedback on initial analyses. During the fall of 2009, *The Viewing Project Team* gained feedback from experts in the field of museums and technology by partnering with the Museum Studies Department at Indiana University-Purdue University Indianapolis (IUPUI) to bring three consultants/ speakers to Indianapolis. Jeffrey Inscho, Director of Media and Public Relations, Mattress Factory; Nancy Proctor, Head of New Media, Smithsonian American Art Museum; and Bruce Wyman, Director of Technology, Denver Art Museum all met with Team members and responded with suggestions.

RESEARCH & EVALUATION

Visitor research and evaluation are an integral part of the project and help inform subsequent installations. To date two visitor panel discussions have been held in order to get feedback about past, current, and upcoming installations. The team has responded to panel members' input and have used their insights to help shape future installations. Baseline times have been collected on 13 objects in their original locations, gathered 1,894 comments, conducted 112 qualitative interviews, and observed 465 visitors in *The Viewing Project* installations. The primary focus has been on total time spent in the installation and time spent (3 seconds or more) with each component. A distinction is made between consuming information and

looking at the works of art. The majority of baseline comparison times have increased when the objects are placed in a *Viewing Project* installation, with most increasing two- and three-fold. Total time spent in the installations has increased with each subsequent installation. As people look at more works of art, the time they spend in the installation increases. In the most recent installation, *Viewing Project 4: Wondering about Space*, time spent with the art surpassed time spent with the labels, which demonstrates a positive trend of visitor attention shifting to the works of art instead of the consumption of information. In comparing all of the installations, those who spent a minute or less decreased with each subsequent installation. In *Viewing Project 4*, those spending more than five minutes in the installation increased to 13% compared to 5% in *Viewing Projects 1&2* and 6.5% in *Viewing Project 3*.

PUBLICATION & WEBSITE

Because the concept development for *The Viewing Project* has been unusual and has tapped expertise from a wide range of fields, the process has been extensively documented in several formats. As mentioned above, the groundwork has already been laid for in-depth visitor studies. The Team expects to gain insights that can inform future permanent and temporary installations and educational programming initiatives at the IMA, and can be shared with educators, curators and designers at other institutions. The Team would like to publish these findings because they can make a contribution to the field. Rather than a conventional catalogue, the team is considering a publication that might “tell the story” of *The Viewing Project*, from intellectually provocative brainstorming sessions to meticulous considerations of installation to visitor responses.

The Viewing Project Team plans to create an interactive Website that archives and extends the concepts and experiences offered in the installation series to a wider audience.



United States Department of the Interior
National Business Center
ACQUISITION SERVICES DIRECTORATE
Indirect Cost Services
2180 Harvard Street, Suite 430
Sacramento, CA 95815



April 7, 2010

Ms. Jennifer K. Bartenbach, Acting Director of Finance
Indianapolis Museum of Art, Inc.
4000 Michigan Road
Indianapolis, Indiana 46208-3326

Dear Ms. Bartenbach:

We reviewed the revised indirect cost rate proposal for the fiscal years (FYs) ending June 30, 2010 and 2011. We are prepared to approve provisional rates of 93.18 percent for FYs 2010 and 2011 for all programs. These rates are based on total direct salaries and wages, excluding fringe benefits. The result of our review is summarized in the enclosed Exhibit. If you agree with the contents, **please sign and return the two copies** of the Indirect Cost Negotiation Agreement to us to complete the negotiation process. I will then sign and return one copy to you.

Since your organization has a provisional rate, you are required to finalize this rate by submitting a new indirect cost proposal within 6 months after the close of your fiscal year. Accordingly, a revised proposal containing actual costs for FY 2010 is due in our office before January 1, 2011. This final rate proposal must be based on and reconcilable to financial statements that meet the requirements of the Single Audit Act of 1984, Public Law 98-502, as amended. In addition, as long as you continue to receive federal funding, new indirect cost rate proposals are required to obtain approved rates. Therefore, your FY 2012 provisional rate proposal should accompany the FY 2010 final rate proposal. You may use your FY 2010 final rate proposal (actual costs) as the basis for negotiating your FY 2012 provisional rate or you may submit a new proposal based on budgetary data or combination thereof. For information and updates on filing indirect cost proposals, please visit our Web site at <http://www.aqd.nbc.gov/ics>.

If you have any questions concerning the agreement or this letter, please write or call Ms. Maria Nua, Program Analyst, at (916) 566-7111.

Sincerely,


Deborah A. Moberly
Indirect Cost Coordinator

Enclosures: Exhibit and Negotiation Agreement

Ref: J:Contracts/IMLS/Imam361/Imam-Na.10P&11P

Phone (916) 566-7111

Fax (916) 566-7110

E-mail ICS@nbc.gov

Internet <http://www.aqd.nbc.gov/ics>

Indianapolis Museum of Art, Inc.
FYs 2010 and 2011 Provisional Rate Computations

Exhibit

Title/Description	FY 2010 Provisional	FY 2011 Provisional
Indirect Cost Pools	<u>\$10,529,756</u>	<u>\$10,529,756</u>
Direct Salaries Bases	<u>\$11,300,119</u>	<u>\$11,300,119</u>
Indirect Cost Rates	<u>93.18%</u>	<u>93.18%</u>

Note: As requested by the Indianapolis Museum of Art, Inc., we negotiated the FYs 2010 and 2011 provisional rates based on the actual financial data for the 18-month period ending June 30, 2009.

**Nonprofit Organization
Indirect Cost Negotiation Agreement**

EIN: 35-0867955

Organization:

Indianapolis Museum of Art, Inc.
4000 Michigan Road
Indianapolis, Indiana 46208-3326

Date:

Report No(s) .:

Filing Ref.:

Initial Negotiation Agreement

The indirect cost rates contained herein are for use on grants, contracts, and other agreements with the Federal Government to which 2 CFR 230 (OMB Circular A-122) applies, subject to the limitations in Section II.A. of this agreement. The rates are negotiated by the U.S. Department of the Interior, National Business Center, and the subject organization in accordance with the authority contained in 2 CFR 230.

Section I: Rates

Type	Effective Period		Rate*	Locations	Applicable To
	From	To			
Provisional	07/01/09	06/30/10	93.18%	All	All Programs
Provisional	07/01/10	06/30/11	93.18%	All	All Programs

*Base: Total direct salaries and wages, excluding fringe benefits.

Treatment of fringe benefits: Fringe benefits applicable to direct salaries and wages are treated as direct costs; fringe benefits applicable to indirect salaries and wages are treated as indirect costs.

Treatment of paid absences: Vacation, holiday, sick leave, and other paid absences are included in salaries and wages and are claimed on grants, contracts, and other agreements as part of the normal cost for the salaries and wages. Separate claims for the costs of these paid absences are not made.

Section II: General

Page 1 of 3

A. Limitations: Use of the rates contained in this agreement is subject to any applicable statutory limitations. Acceptance of the rates agreed to herein is predicated upon these conditions: (1) no costs other than those incurred by the subject organization were included in its indirect cost rate proposal, (2) all such costs are the legal obligations of the grantee/contractor, (3) similar types of costs have been accorded consistent treatment, and (4) the same costs that have been treated as indirect costs have not been claimed as direct costs (for example, supplies can be charged directly to a program or activity as long as these costs are not part of the supply costs included in the indirect cost pool for central administration).

B. Audit: All costs (direct and indirect, federal and non-federal) are subject to audit. Adjustments to amounts resulting from audit of the cost allocation plan or indirect cost rate proposal upon which the negotiation of this agreement was based will be compensated for in a subsequent negotiation.

C. Changes: The rates contained in this agreement are based on the organizational structure and the accounting system in effect at the time the proposal was submitted. Changes in organizational structure, or changes in the method of accounting for costs which affect the amount of reimbursement resulting from use of the rate in this agreement, require the prior approval of the responsible negotiation agency. Failure to obtain such approval may result in subsequent audit disallowance.

D. Provisional/Final Rates: Within 6 months after year end, a final rate must be submitted based on actual costs. Billings and charges to contracts and grants must be adjusted if the final rate varies from the provisional rate. If the final rate is greater than the provisional rate and there are no funds available to cover the additional indirect costs, the organization may not recover all indirect costs. Conversely, if the final rate is less than the provisional rate, the organization will be required to pay back the difference to the funding agency.

E. Agency Notification: Copies of this document may be provided to other federal offices as a means of notifying them of the agreement contained herein.

F. Record Keeping: Organizations must maintain accounting records that demonstrate that each type of cost has been treated consistently either as a direct cost or an indirect cost. Records pertaining to the costs of program administration, such as salaries, travel, and related costs, should be kept on an annual basis.

G. Reimbursement Ceilings: Grantee/contractor program agreements providing for ceilings on indirect cost rates or reimbursement amounts are subject to the ceilings stipulated in the contract or grant agreements. If the ceiling rate is higher than the negotiated rate in Section I of this agreement, the negotiated rate will be used to determine the maximum allowable indirect cost.

H. Use of Other Rates: If any federal programs are reimbursing indirect costs to this grantee/contractor by a measure other than the approved rates in this agreement, the grantee/contractor should credit such costs to the affected programs, and the approved rate should be used to identify the maximum amount of indirect cost allocable to these programs.

I. Central Service Costs: Where central service costs are estimated for the calculation of indirect cost rates, adjustments will be made to reflect the difference between provisional and final amounts.

J. Other:

1. The purpose of an indirect cost rate is to facilitate the allocation and billing of indirect costs. Approval of the indirect cost rate does not mean that an organization can recover more than the actual costs of a particular program or activity.

2. Programs received or initiated by the organization subsequent to the negotiation of this agreement are subject to the approved indirect cost rate if the programs receive administrative support from the indirect cost pool. It should be noted that this could result in an adjustment to a future rate.

3. This negotiation agreement is entered into under the terms of an Interagency Agreement between the U.S. Department of the Interior and the Institute of Museum and Library Services. No presumption of federal cognizance over audits or indirect cost negotiations arises as a result of this Agreement.

4. New indirect cost proposals are necessary to obtain approved indirect cost rates for future fiscal or calendar years. The proposals are due in our office 6 months prior to the beginning of the year to which the proposed rates will apply.

Section III: Acceptance

Listed below are the signatures of acceptance for this agreement:

By the Nonprofit Organization:

For the Cognizant Federal Government Agency:

Indianapolis Museum of Art, Inc.
Grantee/Contractor

Institute of Museum and Library Services
Cognizant Agency

Jennifer K. Bartenbach /s/
Signature

_____/s/
Signature

Jennifer K. Bartenbach
Name (Type or Print)

Deborah A. Moberly
Name

Acting Director of Finance
Title

Indirect Cost Coordinator
Indirect Cost Services
Title

4/13/10
Date

U.S. Department of the Interior
National Business Center
Negotiating Agency
Date

Negotiated by Muberra Guvenc
Telephone (916) 566-7111