FLASH REPORT ARTIFICIAL INTELLIGENCE STRATEGY & IMPLEMENTATION

222222

HOUSE ADMINISTRATION SUBCOMMITTEE ON MODERNIZATION

Executive Summary

This is part of a series of reports the Committee is releasing on artificial intelligence (AI) strategy and implementation in the House of Representatives over the course of 2024. The purpose is to provide a transparent update to the public on the use of AI technology by House offices and legislative branch agencies. This report was produced at the direction of Committee Chairman Bryan Steil, Committee Ranking Member Joseph D. Morelle, Subcommittee on Modernization Chairwoman Stephanie Bice, and Subcommittee on Modernization Ranking Member Derek Kilmer.

Between April and June 2024, CHA focused on applying the House's AI Guardrails to the acquisitions process as an effective means of ensuring the responsible use of AI. These guardrails immediately became a framing aid to evaluate IT approvals which incorporated new AI functionality. Over the course of the quarter, these discussions were codified into approval forms and were immediately applied funding approvals.

The Committee held a private roundtable for technology vendors to express their broad perspectives about the House's acquisitions process. While not specifically focused on AI, several themes about the pacing and flexibility of technology procurements were discussed.

The Committee identified two use case areas – casework and transcription services – and is in the process of reaching out to every House-approved vendor in these spaces to share information and to better understand the vendor's anticipated software roadmaps.

The Committee has also been communicating with international parliamentary officials to share best practices. This included direct meetings with officials from several countries as well as the participation in knowledge sharing events organized by The Ohio State University's Global Innovations in Democracy Exchange, Bússola Tech, and Congress 2076.

Notable Accomplishments (April through June 2024)

Below is breakdown of notable accomplishments from legislative branch agencies and House entities.

Government Publishing Office (GPO)	
Governance	GPO has finalized their AI Strategy and has developed a Plan of Action and Milestones, which help guide their evaluation of AI pilot projects. These projects are designed to promote operational efficiencies in key areas.
	The Committee would like to commend GPO's thoughtful and robust AI Strategy and acknowledge its section on Cost Management considerations which require clear quantification of expected return on investment.
Use Cases	GPO has nine active use cases in total. During this quarter, GPO focused most on three small pilot programs as a proof-of-concept.
	1. The first pilot is focused on developing an internal chatbot service that can help GPO employees more quickly find relevant documents for members of the public.
	2. The second pilot is exploring the use of AI in acquisitions support to streamline the way that GPO buys goods and services.
	3. The third pilot is looking for AI solutions that can store and index large volumes of government publications efficiently.
Staff Upskilling	GPO has made AI training available to all employees and provided AI technical training to their systems administrators. In addition, GPO places a strong emphasis on continuous learning and is encouraging experimentation and innovation in the field of AI.
	The Committee is supportive of GPO's plans to set up a small AI laboratory, which would help it keep pace with other large legislative branch entities.

GPO's AI Use Case Inventory: <u>Artificial Intelligence (AI) Use Case Inventory (gpo.gov)</u>

Library of Congress (LOC)		
Governance	In late March the Office of Management and Budget (OMB) released the document <i>Draft Guidance for 2024 Agency Artificial Intelligence Reporting Per EO 14110.</i> Because the draft OMB guidance recommends including significantly more—and more complex—information, the Library's AI Working Group is adjusting the process to ensure newly required information on the inventory is gathered as potential use cases are selected, developed, and tested. This restructuring should facilitate collecting and sharing of information from internal project managers, IT	

	specialists and subject matter experts, and vendors.
Use Cases	The Library's inventory includes more than a dozen use cases, most of them experiments initiated by OCIO and service unit partners to explore the use of AI in specific contexts.
	Of note, in July 2024, OCIO and the Library will begin the third round of the Exploring Computational Description experiment, which is focused on the use of generative data for bibliographic records. Building on the results of two previous experiments, this investigation phase will explore the possibilities for employing Machine Learning technologies to create bibliographic metadata from digital materials. Cataloging is an essential but time intensive function at the Library, and building efficiency would improve operations.
	CHA received testimony from the CRS's Acting Director on March 20, 2024, concerning plans to use AI to expedite drafting, reviewing, and publishing of bill summaries. CHA encourages the Library to prioritize this use case due to its high potential to deliver timely and relevant information to Congress.
	The Library is testing "human in the loop" methodologies alongside fully automated models. Many of these experiments show further work is needed to bring the quality of results to the level required for implementation. The handful of cases in which the Library confidently uses AI include IT security threat identification and OCR software, which have incorporated AI for years.
Staff Upskilling	LOC's AI Community of Practice (AI CoP) held its inaugural meeting in late May and attracted over 400 Library staff members. At the meeting, AIWG and Office of the Chief Information Officer (OCIO) Digital Strategy Directorate (DSD) staff introduced attendees to the Library's AI work so far, surveyed staff experience and expertise with AI, and identified interests, hopes, and concerns in using these technologies. Responses indicated broad enthusiasm for the subject and engagement with numerous facets of AI. The Library plans to convene the group every two months to provide an educational, interactive, and inclusive space for interest in and curiosity about AI.
	LOC staff continued to co-chair the International Artificial Intelligence for Libraries, Archives, and Museums (AI4LAM) group.

LOC's AI Use Case Inventory: <u>AI at LC | Experiments | Work | Library of Congress (loc.gov)</u>

Smithsonian Institution	
Governance	The Smithsonian has established a working group to review and draft AI-related policies and guidance and expects to deliver preliminary outputs in early Fall, with final deliverables complete by end of calendar year 2024.

Use Cases Examples of the Smithsonian's use cases include, but are not limited, to the following: • The Migratory Bird Center at the National Zoo and Conservation Biology Institute is developing a system of interconnected microphones that relay audio recordings to a local edge computing base station for deep learning identification of bird vocalizations. • Postdoctoral researchers at the Smithsonian Tropical Research Institute are developing models to accurately identify tree species from drone canopy photos. These models will be used to better understand tree canopy ecological dynamics and the population dynamics of tropical tree species from remote sensing data. • Botany curators are leveraging herbarium images from the National Museum of National History to better understand diversity of morphological traits along critical ecological transition zones, including the tropical to temperate and mesic to xeric transitions. AI is used to extract lear shape traits to understand how plant species vary along these transitions. Staff Upskilling To support ongoing staff engagement and upskilling on AI-related concepts, the Smithsonian's AI Community of Practice (AICoP) holds monthly AI Interest Community Meetings open to all staff. These community meetings provide updates on internal Smithsonian AI projects and initiatives, insights into AI developments that impact SI and the sector, and guest speakers to share how they are using AI within their organization and work. Recent meeting topics in have included discussions on Large Language Models, Computational and Computer Vision		
 The Migratory Bird Center at the National Zoo and Conservation Biology Institute is developing a system of interconnected microphones that relay audio recordings to a local edge computing base station for deep learning identification of bird vocalizations. Postdoctoral researchers at the Smithsonian Tropical Research Institute are developing models to accurately identify tree species from drone canopy photos. These models will be used to better understand tree canopy ecological dynamics and the population dynamics of tropical tree species from remote sensing data. Botany curators are leveraging herbarium images from the National Museum of National History to better understand diversity of morphological traits along critical ecological transition zones, including the tropical to temperate and mesic to xeric transitions. AI is used to extract lear shape traits to understand how plant species vary along these transitions. Staff Upskilling To support ongoing staff engagement and upskilling on AI-related concepts, the Smithsonian's AI Community of Practice (AICoP) holds monthly AI Interest Community Meetings open to all staff. These community meetings provide updates on internal Smithsonian AI projects and initiatives, insights into AI developments that impact SI and the sector, and guest speakers to share how they are using AI within their organization and work. Recent meeting topics in have included discussions on Large Language Models, Computational and Computer Vision 	Use Cases	Examples of the Smithsonian's use cases include, but are not limited, to the following:
 Postdoctoral researchers at the Smithsonian Tropical Research Institute are developing models to accurately identify tree species from drone canopy photos. These models will be used to better understand tree canopy ecological dynamics and the population dynamics of tropical tree species from remote sensing data. Botany curators are leveraging herbarium images from the National Museum of National History to better understand diversity of morphological traits along critical ecological transition zones, including the tropical to temperate and mesic to xeric transitions. AI is used to extract lear shape traits to understand how plant species vary along these transitions. Staff Upskilling To support ongoing staff engagement and upskilling on AI-related concepts, the Smithsonian's AI Community of Practice (AICoP) holds monthly AI Interest Community Meetings open to all staff. These community meetings provide updates on internal Smithsonian AI projects and initiatives, insights into AI developments that impact SI and the sector, and guest speakers to share how they are using AI within their organization and work. Recent meeting topics in have included discussions on Large Language Models, Computational and Computer Vision 		• The Migratory Bird Center at the National Zoo and Conservation Biology Institute is developing a system of interconnected microphones that relay audio recordings to a local edge computing base station for deep learning identification of bird vocalizations.
Botany curators are leveraging herbarium images from the National Museum of National History to better understand diversity of morphological traits along critical ecological transition zones, including the tropical to temperate and mesic to xeric transitions. AI is used to extract lead shape traits to understand how plant species vary along these transitions.Staff UpskillingTo support ongoing staff engagement and upskilling on AI-related concepts, the Smithsonian's AI Community of Practice (AICoP) holds monthly AI Interest Community Meetings open to all staff. These community meetings provide updates on internal Smithsonian AI projects and initiatives, insights into AI developments that impact SI and the sector, and guest speakers to share how they are using AI within their organization and work. Recent meeting topics in have included discussions on Large Language Models, Computational and Computer Vision		• Postdoctoral researchers at the Smithsonian Tropical Research Institute are developing models to accurately identify tree species from drone canopy photos. These models will be used to better understand tree canopy ecological dynamics and the population dynamics of tropical tree species from remote sensing data.
Staff UpskillingTo support ongoing staff engagement and upskilling on AI-related concepts, the Smithsonian's AI Community of Practice (AICoP) holds monthly AI Interest Community Meetings open to all staff. These community meetings provide updates on internal Smithsonian AI projects and initiatives, insights into AI developments that impact SI and the sector, and guest speakers to share how they are using AI within their organization and work. Recent meeting topics in have included discussions on Large Language Models, Computational and Computer Vision		Botany curators are leveraging herbarium images from the National Museum of National History to better understand diversity of morphological traits along critical ecological transition zones, including the tropical to temperate and mesic to xeric transitions. AI is used to extract leaf shape traits to understand how plant species vary along these transitions.
Techniques, and establishing AI Planning Frameworks.	Staff Upskilling	To support ongoing staff engagement and upskilling on AI-related concepts, the Smithsonian's AI Community of Practice (AICoP) holds monthly AI Interest Community Meetings open to all staff. These community meetings provide updates on internal Smithsonian AI projects and initiatives, insights into AI developments that impact SI and the sector, and guest speakers to share how they are using AI within their organization and work. Recent meeting topics in have included discussions on Large Language Models, Computational and Computer Vision Techniques, and establishing AI Planning Frameworks.

SI's AI Use Case Inventory: Age of AI | Smithsonian Institution (si.edu)

Architect of the Capitol (AOC)		
Governance	 The AOC continues its governance assessment leveraging the recommended NIST AI framework and other related NIST publications that provide guidance on generative AI. The AOC's information technology council has created two oversight entities, the AI Advisory Committee and the AI Power User Group. The AOC is working to define the role of the Chief AI Officer and AOC's fiscal year 2025 budget request includes resources for this new officer. 	
Use Cases	In June 2024, emerging AI Use Cases that will require Information Technology Council (ITC) voting were discussed with executive management. The descriptions and classifications of several Use Cases were refined. Proof of concept work is underway using a private AI large language model (LLM) and Machine Learning in a FedRAMP authorized cloud environment. A data quality	

	management pilot is in progress using an AI-powered robotic process automation (RPA) toolset. Follow-on RPA pilots are in the investigation phase.The AOC has performed risk analysis and approved several requests for AI-driven image, audio, and video editing tools. They are conducting a proof of value assessment on a Zero Trust Architecture solution to bring needed AI cybersecurity safeguards and guardrails to the environment.
Staff Upskilling	The AOC has several staff upskilling activities underway. Most notably, the ITC has published articles on AI fundamentals, AI responsible use, and the process for staff to request AI tools in AOC internal publications. The ITC briefed and answered AOC staff questions on AI and its authorized use at an AOC Office Hours session.
	for some employees, and an AOC-specific AI module is being created for inclusion in the AOC's 2024 Cybersecurity Awareness Training. The AOC has identified Microsoft AI curriculums for a variety of AI roles at various levels of expertise to invest in during fiscal year 2024 and 2025 to upskill staff. AOC cybersecurity resilience in the age of AI was given by Gartner, a leading research and advisory group that has hosted over 20 conference events on AI.

AOC's AI Use Case Inventory: For internal use only.

U.S. Capitol Police (USCP)		
Governance	USCP has completed their AI Governance Committee Charter and has begun convening working group sessions on a quarterly basis as the Charter goes through the formal, internal approval process.	
	Members of this committee have sought advice and guidance from a wide variety of sources, including meeting with the National Policing Institute, to share best practices and learn about ongoing AI-related pilots. In addition, this committee has participated in federal forums focused on the challenges of hiring and retaining AI professionals in today's competitive labor market.	
	USCP's focus over the next several months will be on developing official AI Governance and an AI Policy Directive. These will establish policies and provide guidance and best practices to USCP staff when using, procuring, and implementing AI products or services in support of the USCP mission.	
	In addition, throughout fiscal year 2024 and beyond, the USCP will focus a significant amount of attention to ensuring its data is not only clean, but housed in a way that ensures easy and reliable access when needed. The Committee commends this detailed and proactive work.	
Use Cases	USCP uses administrative and office productivity tools such as Microsoft Edge and Office, as well as Adobe Creative Suite. These tools include AI capabilities which are available to all users.	

	USCP is investigating the possibilities AI can bring to its workforce and has several projects in the pipeline that will enable various AI-related capabilities. For example, enterprise applications equipped with AI features scheduled for implementation this year include the cloud-based Microsoft Office 365 (M365) suite of productivity and collaboration tools, as well as other cloud-based IT service management software. USCP uses commercial threat analysis tools that use non-generative AI and machine learning to aid in the detection and investigation of threats to the congressional community. USCP is in the process of deploying non-generative AI tools to enhance existing physical security capabilities.
Staff Upskilling	USCP has updated its mandatory annual Cybersecurity Awareness Training offering to include guidance on the safe and responsible use of AI. These updates are reflected in this year's training that will be conducted during the fourth quarter of fiscal year 2024.

USCP's AI Use Case Inventory: For internal use only.

Chief Administrative Office (CAO)	
Governance	 CAO continued to refine its draft AI policy to reflect responsible AI principles and align with House-defined AI guardrails. In May CAO met with NIST for insight and technical feedback. In May and June, CAO discussed the draft AI Policy with other institutional offices within the House and the U.S. Senate. CAO formally submitted the policy to CHA in late June. CAO plans to develop complementary documents that provide additional guidance on managing, mapping and measuring appropriate AI use within the House community.
Use Cases	The Committee has been pleased to see the significant progress CAO has made to explore high security LLM solutions like Microsoft Azure Open AI and AWS's Bedrock. Permanent and secure foundations like this are critical for maintaining trust and security with the House's sensitive data at an enterprise level, and they set the House up for successful exploration of more specialized use cases in the future. Similarly, the Committee encourages CAO's continued technical testing for Copilot and looks forward to collaboration in terms of pilot rollout and funding. CAO began "Phase II" of the AI Working Group, which gathers feedback from institutional offices (CAO, Clerk, Sargent at Arms, Legislative Counsel, and other institutional support groups) about their user experiences with Chat GPT paid accounts.

	CAO's preliminary "Phase II" findings are that there are many more specialized, and often more technical, use cases that create efficiencies within these offices compared to Member, Committee, and Leadership offices.
Staff Upskilling	 CAO's AI Center of Excellence and designated AI Coordinator continue to coordinate and centralize CAO's AI efforts. This new organization lacks dedicated staff and funding but is pulling staff resources from existing teams. CAO has chosen to hold off on implementing widespread AI upskilling until the AI policy is approved. Internally, CAO has been meeting with CAO Coaches, the Staff Academy instructors, the HIR Change Management team, and the CAO communications team. CAO plans to include AI focused slides in the 2025 Cybersecurity training material

CAO's AI Use Case Inventory: For internal use only.

The Office of the Clerk (Clerk)	
Governance	As previously noted, the Clerk plans to follow the CAO's policy guidance.
	The Clerk participates in the House Technology Workgroup on AI and the Artificial Intelligence Center of Excellence, both formed and led by the CAO. These focus groups coordinate and share information on AI-related activities, including training opportunities and resources within the House.
Use Cases	The Comparative Print Suite remains the Clerk's only application that currently uses AI. This tool displays legislative text changes in context, including how a bill changes law and how two versions of legislative text differ. Over 2024 the Clerk will extend access to the U.S. Senate through a pilot program and develop plans to expand staff access in the Congressional Budget Office, with the goal of reducing the time necessary to produce cost estimates for bills. ¹ The Comparative Print Suite project received international recognition in May 2024 from Bussola Tech and the Organization of American States for its pioneering efforts in legislative technology. ²
	The Clerk is exploring two additional potential use cases: AI-assisted software engineering and AI-enabled search for public websites. AI code-generation tools are proving to accelerate development and detect flaws and bugs in coding, enhancements that can lead to improved productivity and reduced human error.
	Any such tool, if used, will require human oversight and intervention and will be used with security and safety in mind.
	In addition, the Clerk is exploring the use of generative AI to provide an immersive natural language-based search capability for some of its public websites, which will

 ^a <u>Clerk FY 2025 (congress.gov)</u>
 ^a <u>Bússola Tech recognizes the US House of Representatives for its groundbreaking Comparative Print Suite</u> (bussola-tech.co)

	optimize user experience and search results.
Staff Upskilling	The Clerk sees upskilling existing staff as crucial to any successful development and launch of AI-enabled applications, in particular because of today's competitive environment in recruiting experienced AI talent.
	The Clerk has outlined a set of regimens for its technology staffers to be trained in AI, including Azure OpenAI, generative AI, machine learning, and large language models. Staff attending these trainings will get firsthand experience with building AI-enabled applications as the Clerk explores several potential applications over the next several months.

Clerk's AI Use Case Inventory: <u>House of Representatives</u>, Office of the Clerk, Artificial Intelligence Use <u>Case Inventory</u>

Next Steps

Over the next three months CHA will be engaged in discussions around House-specific use cases that could provide substantial, immediate workflow efficiencies for congressional staff. Additionally, CHA will be evaluating funding options that could best support AI Innovations throughout the legislative branch. Finally, CHA will continue communicating with international parliaments about how they are using AI technologies in their legislative operations.