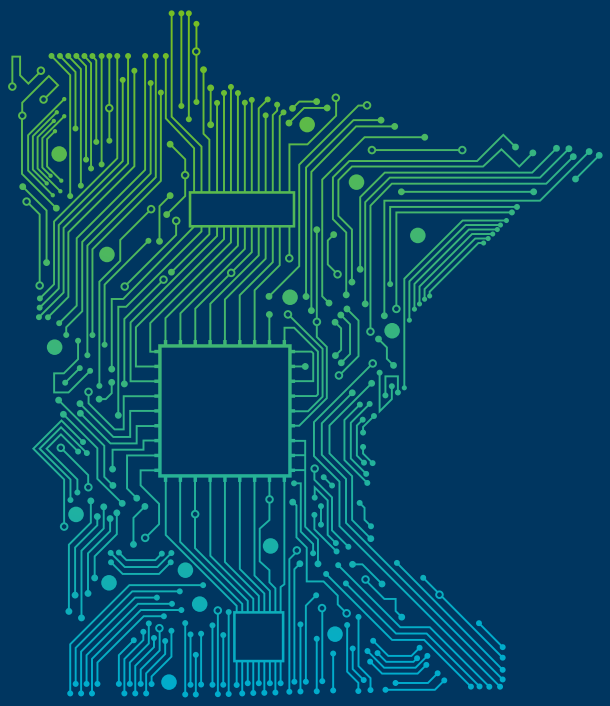
MINNESOTA IT SERVICES

AI Unleashed: Igniting Responsible Artificial Intelligence to Serve Minnesotans



State of Minnesota: Minnesota IT Services

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Executive Summary

While Minnesota's journey into artificial intelligence began some time ago, the recent surge in available services and tools underscored the transformative potential of Artificial Intelligence (AI) and automation. This surge aligned with our ambitious vision of becoming the most innovative digital government that works for all Minnesotans.

In late 2022, Minnesota Chief Information Officer Tarek Tomes convened a small group of staff to start talking about the quickly advancing field of AI. As discussion progressed it became clear that to get a full view of the potential and risks a larger, a more diverse group would need to be brought in.

On July 20, 2023, Minnesota IT Services (MNIT) convened the first meeting of the Transparent Artificial Intelligence Governance Alliance (TAIGA) to collaborate with internal and external partners on the rapidly changing field of AI and the evolving policy considerations it requires.

Why it matters: Automation and AI technologies are reshaping our work landscape. Through responsible AI use, Minnesota incorporated these technologies into the fabric of government operations, creating efficient, equitable, and innovative services.

Idea

In 2020, Minnesota set its mission through MNIT to ensure every tech solution brings value to customers, partners, and Minnesotans with the 2020 Strategic Plan. But unexpected challenges like COVID-19 changed how Minnesotans live, pushing MNIT to adapt quickly. Now, AI and automation are the next steps in these efforts.

As AI opportunities and risks continue to evolve, the State of Minnesota, like all government bodies, must remain adaptable and responsive. It's essential for the state to continuously evaluate and adjust its strategies and approaches to benefit both the workforce and the people of Minnesota.

To achieve this balance, TAIGA took on the challenge of using AI to speed up idea generation, simplify complex data analysis, streamline tasks, and foster creativity. However, Minnesota faced significant risks due to the lack of a clear usage policy, a unified vision, and strong governance mechanisms. A particular concern was the use of generative AI by staff members who didn't fully understand the associated risks and appropriate boundaries.

A recent survey conducted by Business Today, polling over 11,000 professionals, revealed that 43% are utilizing AI in their roles, with 70% of them not disclosing this to their employers. This poses significant

risks to organizations, including data security, intellectual property protection, and fraud, particularly for groups handling Personally Identifiable Information (PII).

TAIGA's initial focus was on establishing principles, a vision, and a clear policy for state employees. In late 2023, MNIT introduced AI principles and a vision, supporting the state's efforts to harness the benefits of AI for Minnesotans while considering ethical, equity, and security factors.

Getting Broad Input

The initial TAIGA team comprised members from diverse agencies and disciplines, dedicating part-time efforts driven by their passion for advancing the subject. Under the guidance of Commissioner Tomes' robust executive leadership, the initiative gained momentum even without legislative mandates.

With expertise spanning security, procurement, legislation, communications, systems architecture, program management, finance, human resources, legal, accessibility, and user experience, the team leveraged varied backgrounds, perspectives, and experiences for problem-solving. This diversity of thought ignited innovation and creativity, yielding more effective solutions and outcomes. By challenging assumptions and biases, the diverse perspectives enhanced decision-making processes, ensuring thoroughness and consideration of a broader range of factors.

Systems Architect Ted Goessling showed exceptional leadership within the team. He brought deep technical expertise and architectural insight. Additionally, his adept communication skills, thought leadership, and emotional intelligence fostered collaboration and ensured all team members felt valued.

Benefits

In 2024, the fast-paced advancements in generative AI, along with shifts in policy and public opinion, prompted Minnesota to adopt new technologies across the executive branch. TAIGA recognized early on that AI holds transformative potential for state government when paired with human expertise and ingenuity.

Guided by MNIT's 2023-2027 Strategic Plan and the Governor's One Minnesota Plan, the group established and published a list of benefits including:

- Enhanced quality of life
- Increased efficiency
- Equitable and inclusive access to services
- Proactive and personalized government services
- Empowered workforce
- Transparency and trust
- Innovative economic growth
- Data-driven decision making
- Improved education

Strategies for Success

Create the right conditions. This means establishing clear policies and protocols for AI use. The teams continue beyond the Public AI Services Security Standard to ensure employees understand ethical considerations.

Encourage exploration with demos and hands-on experience with AI. This will help develop an understanding of AI capabilities and limitations.

Provide professional development by offering comprehensive training options on AI tools and practical applications in the curriculum.

Spotlight success by sharing and promoting effective AI use cases within the AI community and with stakeholders.

Host stakeholder conversations by engaging diverse stakeholders in discussions on AI's role in individual development plans. Focus on ethical use, digital citizenship, and the recommended AI curriculum integration.

Implementation

TAIGA adopted a strategic approach and framework for designing, building, deploying, and using AI solutions responsibly and ethically to accelerate value with confidence. The team implemented a Kanban board using Microsoft Planner to manage work progress, ensuring prompt attention to the highest priority tasks.

Commissioner Tomes made TAIGA's efforts a top priority within the agency. Under his leadership, there's a clear dedication to serving the public interest, maintaining public trust, and upholding professional excellence. In establishing TAIGA, he set three priorities:

- **Policy for MNIT**: An AI Usage Policy was developed to guide all executive branch employees, ensuring the safeguarding of personally identifiable information (PII), intellectual property (IP), and sensitive data. The policy defined what could and could not be used, as well as the approval processes involved.
- **Vision:** The team articulated MNIT's vision for AI technology, illustrating its trajectory and how it aligned with broader organizational and gubernatorial priorities.
- **Governance Processes:** Protocols were outlined to support the effective and safe utilization of AI technologies within Minnesota IT Services. These processes provided a framework for leveraging AI in a manner that ensured safety and productivity for the benefit of all Minnesotans.

VISION STATEMENT

MNIT embraces the transformative potential of AI and automation. We will seek to responsibly incorporate these technologies into the fabric of government operations, creating efficient, equitable, and innovative services that benefit every Minnesotan.

With no dedicated staff, progress was made as team members had capacity. Even so, the group accomplished two of its three priorities (Policy for MNIT and Vision) by early 2024 and continues to make strides in establishing governance processes.

Completed

- ☑ **Policy**
- ☑ **Vision**
- ☑ **AI Governance Processes**
  - ✓ AI Technical Assessment (risk rubric)
  - ✓ AI Ethican and Responsible
  - ✓ Assessment (risk rubric)
- ☑ **AI Information Sharing**
  - ✓ mn.gov/mnit/taiga (website)
  - ✓ Public AI Services Security Standard
  - ✓ Statewide AI Training
- ☑ **AI Team Charters and Roles**
  - ✓ AI Ethical and Responsible AI Team Charter
  - ✓ AI Technical and Impact Team Charter
  - ✓ AI Champions Team Charter
  - ✓ AI Lead 1-Pager

Once set, the major task became getting this information out to State of Minnesota employees. MNIT conducted a communications campaign including email, intranet, and cross-agency toolkits to ensure state employees had the information and resources needed.

TAIGA organized a virtual training event titled "AI Unleashed." This session was structured to facilitate general information sharing, followed by demonstrations of AI technologies that adhere to the public AI security standard. The demonstrations were tailored to different roles within the organization, illustrating practical ways to utilize and benefit from existing AI-enabled services. Specific demonstrations included: 1) initiating a writing task, 2) identifying gaps in understanding, 3) enhancing search capabilities, 4) summarizing information, 5) prompting engineering tasks, and 6) learning with personas.

The training emphasized the importance of adhering to the security standard and highlighted the necessity for human review of all outputs generated by these tools. The slides were crafted to include images that were AI-generated to play off the title of the training. Over 1,000 state employees attended the training and many more requested the link as the word spread. TAIGA plans to hold additional training opportunities in 2024.

With much of the preliminary conceptual work completed, TAIGA is now actively operationalizing the foundational ideas. Progress continues in two main areas. MNIT is developing a new role to lead AI efforts within the agency. Additionally, TAIGA has formed an AI Champions group consisting of technology leaders from each agency to ensure consistent implementation and foster opportunities at the individual agency level.

Impact

AI services have already begun to deeply impact Minnesotans, with the state utilizing AI and automation to break down language barriers, enhance pollution monitoring, improve customer service through chatbots, and streamline processes across the executive branch. As generative AI rapidly transforms our interaction with technology, establishing an ethical framework becomes crucial for Minnesota to implement new technologies innovatively while ensuring the safety and security of its citizens.

A clearly defined AI policy is essential to guide employees in their interactions with AI, spanning decision-making and task automation. This clarity helps employees understand their evolving roles within an AI-integrated environment, ensuring effective utilization of these technologies. Despite the risks involved, there are ample opportunities to leverage generative AI to enhance efficiency and effectiveness across services in Minnesota, from automating administrative tasks to improving interactions with citizens and aiding decision-making processes.

One of TAIGA's significant tools at the process level is an AI Assessment rubric designed for conducting risk-based AI analysis, defining interactions at each level with supported examples.

Level	AI-Enabled Systems	Examples
Level 1 Basic Assistance	People **access** basic AI assistance tools that provide simple suggestions and automation.	Chatbots to fix internet service; customer service; or order pizza, Siri, Alexa, Google Assistant, etc.
Level 2 Partial Automation	People **collaborate** with AI-enabled services that provide complex responses and automation suggestions. People have full responsibility for decision-making.	ChatGPT, Copilot, Bard, Perplexity, Grammarly.
Level 3 Conditional Automation	People **supervise** semi-autonomous AI services operating within predefined parameters. Person is responsible for overseeing proper operation.	Vehicle safety features such as lane assist or adaptive cruise control, smart home security systems.
Level 4 High Automation	People **allow** AI tools to make decisions and execute tasks. User only intervenes when events are outside normal operating conditions.	Radiology support systems, autonomous delivery robots, agriculture robots for planting, weeding, harvesting, etc.
Level 5 Full Automation	People **trust** AI systems to operate without oversight or need for intervention.	Automated financial transactions, fully autonomous vehicles, smart grid energy management systems.

The importance of AI has gained attention from legislators, with Commissioner Tomes testifying before the Senate Tax Committee in February, showcasing MNIT's efforts to balance AI's opportunities and risks. Described as the "most riveting testimony of the session," MNIT received positive feedback from members of both parties regarding the state's direction.

In response, Tomes has received invitations to speak as an AI expert, including appearances on Twin Cities Public Television's show Almanac, the MnTech Connect Conference, and the Minnesota Groundwater Association Annual Conference.

Continued technological advancements present an ongoing challenge for governments at every level. However, by allocating resources appropriately and engaging in strategic planning, MNIT's accomplishments demonstrate what's achievable when state governance adopts a thoughtful, people-focused strategy. Commissioner Tomes and the CIO office remain dedicated to these efforts.

Guiding AI Through Thoughtful Collaboration

- TAIGA collaborated with leadership at Minnesota Management and Budget (MMB) to test an AI technology called retrieval augmented generation (RAG). RAG technology enables users to interact with large collections of complex documents using natural language. The RAG implementation for MMB created a chatbot knowledgeable about statewide financial policies. By training the chatbot on MMB documents and website content, staff can easily navigate hundreds of pages of financial policies and procedures using natural language. This reduces the time experienced staff spend answering questions, allowing them to focus on more complex MMB workloads.
- TAIGA collaborated with the Minnesota Department of Administration's Enterprise Translations Office (ETO) to launch the ETO Translation Hub, ensuring equitable access to essential information and services for all Minnesotans. By combining AI and human expertise, the ETO delivers high-quality translations, focusing on Spanish, Hmong, and Somali languages. This initiative showcases how cutting-edge tools and best practices are used to achieve clarity and accuracy in diverse communications, helping agencies enhance their communication effectiveness.
- TAIGA worked with the Minnesota Department of Health (MDH) and MNIT governance teams to enable testing of large language models to extract unstructured data from within electronic case records. The review process helped MDH develop Minnesota-specific model training processes to increase system accuracy.
- TAIGA provided feedback to the Department of Public Safety (DPS) about a predictive analysis component to an internal car crash data application.

TAIGA's initiatives in Minnesota are just beginning, with plans to recommend further action plans such as an AI training program and dedicated workgroups. They are focused on forging partnerships, developing policies, and creating training toolkits to guide ethical AI use, while also highlighting success stories and facilitating discussions on ethical considerations. Additionally, they aim to design challenges that encourage critical thinking, foster collaboration, integrate digital citizenship principles, and ensure clear communication of AI usage policies to the workforce.