Project Lightning Talks
About 10x

10x funds, supports, and develops ideas from federal employees about how technology can improve the public’s experience with the government.

- Federal employees: submit an idea! All you need is an idea name, and 2-3 sentences.
- 10x will hire a team to investigate the idea, on your behalf
- Government gets better at serving the public

Get started at 10x.gsa.gov!
Quick 5-minute overviews of 10x’s current projects, with information on the original pitch, work to-date, and current status. Projects to be covered:

- U.S. Data Federation
- Eligibility APIs Initiative
- DevOps for Privacy Offices
- Agile Budgeting and Oversight Handbook
- Federal Grant Reporting
- Machine Learning as a Service (MLaaS)
- Combating Bias in AI/ML Implementations
- Expanding USWDS to Promote Agency Adoption
- Site Scanning
U.S. Data Federation

PRESENTED BY: Julia Lindpaintner, 18F
The Original Idea

There are many policies, initiatives, and citizen-facing products and services that depend on aggregating and harmonizing data from disparate government sources yet these efforts often re-invent much of the infrastructure to manage this federated approach and often struggle to achieve sufficient awareness of and participation in the federation. The U.S. Data Federation Website will catalog these initiatives and provide a dashboard indicating the maturity and scale of implementation for each one. The Federation Toolkit will package the reusable components needed for a successful data federation strategy. This proposal is aimed at creating the initial website and facilitating a discovery sprint to develop the toolkit. The minimal functionality of the website includes highlighting federation efforts, documenting how to participate in each one, and tracking their development status.

Submitted by Phil A. — April 2016
U.S. DATA FEDERATION

Work Conducted in Prior Phases

PHASE ONE
Conducted SME interviews and synthesized learnings in a Data Federation Maturity Model and Playbook

PHASE TWO
Began prototyping a reusable tool for data aggregation and validation and initiated partnership with USDA FNS as a use case

PHASE THREE
Developed ReVAL in partnership with three agencies and continued to investigate opportunities for reusable tools and repeatable processes in federated data projects
“We are seeking Phase 4 funding to leverage the completion of ReVAL and the momentum of the U.S. Data Federation work to support a long-term vision and strategic plan for a user-centered, maximally-effective resources.data.gov.”

So far:
- Aligned our goals with those of the repository stakeholders
- Conducted user research for the repository
- Defined vision for U.S. Data Federation post-10x

Next up:
- Develop and test content strategy for the repository, including sourcing and developing resources
- Complete ReVAL development and add to repository
U.S. DATA FEDERATION

Get in Touch

Emails:
Team: data-federation@gsa.gov
Project lead: julia.lindpaintner@gsa.gov

Public GitHub repos:
https://github.com/18F/data-federation-project
https://github.com/18F/ReVAL

Websites:
https://federation.data.gov; https://resources.data.gov
Eligibility APIs Initiative

PRESENTED BY: Mike Gintz, 18F

PHASE ONE
INVESTIGATION

PHASE TWO
DISCOVERY

PHASE THREE
DEVELOPMENT

PHASE FOUR
SCALE
The Original Idea / What It Is Now

TTS will investigate how to best use technology to improve public access to government benefits. 18F has been involved with previous activity in this area, working with the United States Digital Service and others. This project will help 18F understand if it should continue this work and, if so, in what areas it should focus its efforts.

Submitted by Alex P. – 2017
Eligibility APIs Initiative

Work Conducted in Prior Phases

**PHASE ONE**
Explored the benefits eligibility space and identified potential value in exploring a rules web service for a non-Medicaid human services program

**PHASE TWO**
Built a prototype rules-as-code API-powered solution with WIC

**PHASE THREE**
Built and tested a prototype rules-as-code API-powered system with D-SNAP (Disasters Supplemental Assistance Program)
Phase 4 started with a search for new discovery partners to pilot an Eligibility API with. We’ve identified two partners and have begun active work with one!

**SO FAR:**
- Created a proof of concept for a rules-as-code API with Head Start
- Arranged second discovery partnership with a new partner to be named later
- Experimented with OpenFisca framework as a possible accelerator

**NEXT UP:**
- Explore Head Start problem space, seeking an appropriate use case for an API-powered application
- Project planning/coordination for next partner kickoff (next month)
- Continue recruiting new partners (3 or 4, in total, for the phase)
Eligibility APIs Initiative

Get in Touch

Emails:
Team: eligibility-apis-initiative@gsa.gov
Project lead: mike.gintz@gsa.gov

Public GitHub repos:
https://github.com/18F/eligibility-rules-service
DevOps for Privacy Offices

PRESENTED BY: Nikki Zeichner, 18F
Government technologists adopting a user-centered approach to service design will increasingly interact with and collect information from the public. This project will explore, in collaboration with the Federal Privacy Council, opportunities to help civil servants better understand and mitigate the risks that aggregations of personally identifiable information (PII) entail. For example, would a contextless, risk-based model be useful to government employees (or more useful than, say, a standard template for conducting privacy threshold assessment)?
Work Conducted in Prior Phases

**PHASE ONE**
Conducted research to understand the struggles faced by federal privacy offices

**PHASE TWO**
Validated assumptions from phase one; prototyped a solution for the GSA privacy office and learned that it would provide them value
## Work Conducted in Prior Phases

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</table>
We’ll be structuring compliance data for privacy offices and developing a dashboard that will enable them to search their systems more easily

**SO FAR:**
- Workshopped with GSA’s privacy office to understand how structured data will improve aspects of their work (gathered and prioritized use cases)

**NEXT UP:**
- Liberating all of the GSA’s privacy compliance data from PDFs
- Building a dashboard for our users’ prioritized use cases; testing + iterating
- Outreach to the Federal Privacy Council to identify opportunities to scale
Emails:
Team: privacy_devops@gsa.gov
Project lead: nicole.zeichner@gsa.gov

Public GitHub repos:
https://github.com/18F/privacy-tools/
Agile Budgeting and Oversight

PRESENTED BY: Alicia Rouault, 18F
Every year, the federal government provides billions of dollars of federal matching funds to state and local governments to maintain and modernize IT systems used to implement federal programs (i.e., Medicaid, child welfare benefits, housing, unemployment insurance). Efforts to modernize those legacy systems fail at an alarmingly high rate and at great cost to the federal budget, in part, because the officials who are responsible for designing, funding, implementing and overseeing these projects lack the technical knowledge needed to make effective decisions.

We want to save federal money as well as improve outcomes for the public by helping educate appropriate government employees about the ways to design and procure successful IT system improvements that lowers the federal cost and delivers better value to the public.

Submitted by **Jessie P.** — November 2017
PHASE ONE

Investigation of a persuasion campaign for state budgeting. By combining outreach and education, could we improve how state employees make funding and procurement decisions on custom software projects?

PHASE TWO

Evolution of a teaching approach for state leadership on how to budget for, and provide oversight of agile software procurement. Led to the Agile Budgeting and Oversight Handbook.
De-risking custom technology projects

A handbook for state grantee budgeting and oversight

August 5, 2019

Robin Carnahan, robin.carnahan@gsa.gov
Randy Hart, randy.hart@gsa.gov
Waldo Jaquith, waldo.jaquith@gsa.gov

18F, Technology Transformation Services, General Services Administration

github.com/18F/technology-budgeting
We’re piloting a future TTS offering on agile budgeting and oversight: educational curriculum, workshop and federal version of the handbook.

SO FAR:

- Initial proof of concept for workshop, tailored to state budgeting processes and an ideal blueprint for stakeholder participants
- Identified 3 potential pilot states (MI, CO, TX) - Looking for more!

NEXT UP:

- Lining up the first workshop to test this new model out in February
- Market research and user testing: gathering feedback from participants, refining the offering, designing a sustainable offering
Get in Touch

Emails:
waldo.jaquith@gsa.gov
alicia.rouault@gmail.com
randy.hart@gsa.gov

Public GitHub repos:
github.com/18F/technology-budgeting/
Federal Grant Reporting

PRESENTED BY: Ben Peterson, 18F
This project is a discovery sprint to identify opportunities to improve the federal grant reporting process — by eliminating redundancies and creating efficiencies through improved technology — with the goal of generating a prototype that could be adapted across federal programs, thereby increasing federal grant programs’ efficacy to those being served as well as taxpayers’ return on investment. Working with DOL Region 6, who administers federal job training programs in AK, AZ, CA, NV, HI, OR, ID and WA (based in San Francisco) through grants to state and local workforce development systems, and JVS, a high-capacity San Francisco-based workforce development nonprofit with federal, state, city and private funding streams and associated complicated and administrative-heavy reporting requirements, 18F will research JVS’s current reporting processes and burdens and ETA’s reporting evaluation needs and then prototype a more efficient and streamlined reporting tool. By standardizing and simplifying reporting, this project will increase the amount of time JVS has available for serving its constituents. By creating a prototype that could be expanded across ETA and federal agencies more broadly, this initiative will improve federal grant program administration and efficacy, enhance the relationship between agencies and grantees, and lay a valuable foundation for outcomes-oriented data collection and analysis.

Submitted by Rhys F. – January 2017
Work Conducted in Prior Phases

**PHASE ONE**
The team observed the grant management processes and burdens from the perspectives of a grant recipient and a granting agency. Brainstormed and explored possibilities for a more efficient and streamlined reporting process.

**PHASE TWO**
The team made a simple proof of concept that uses data from the SAM API to prepopulate the SF-425, also known as the FFR (the Federal Financial Report) to reduce duplicative data entry in a process where weeks of delay can be introduced by simple manual data errors.
In Phase 3, we refined our vision of success to enable simpler, faster, easier, better resolution of single audit findings by agencies and grantees alike.

[As an agency user [I want to] know what other agencies have findings with the same grantee’s that I have [so that] we don’t duplicate work.

[As an agency user [I want to] know if my grantees has a finding with other agencies [so that] I have a better understanding of grantee risk [and] can coordinate with that other agency if there is overlap.

[As a grantee [I want to] know if there are any questions about an audit finding [and] who needs to know, by when [so I] prioritize my work [and] respond to the right person with the right information within the mandated timeframe.

[As a grantee [I want to] streamline my communication with agencies [so I] avoid duplication of work [and] focus on delivering on grant outcomes.
### Priorities for grants modernization from prospective partner agencies.

#### Theme: Cross-agency collaboration

**Improve cross-agency data sharing**

**Representative quotes**

- Hoping for connection to other databases (e.g., USAspending) and (our) own data system so that we can use that data to inform risk without having to redo work.

- Hope: something that enables the sharing of machine-readable data across organizational boundaries.

- Transparency of data; Machine readability of data; sharing Federal agencies’ actions for resolving findings & questioned costs.

10 responses from agencies including NASA, DOJ, FTA, DHS, CNCS, OMB, ACL.

#### Theme: Cross-agency collaboration

**Improve (and involve) cross-agency communication & coordination**

**Representative quotes**

- Goal - Solution is built collaboratively and in small segments. Hope that the system would be able to allow agencies to collaborate on cross-cutting findings.

- Goal - Platform allows communication and coordination between agencies. I hope whatever solution is chosen involves collaboration with the Federal Audit Clearinghouse early on.

7 responses from agencies including FAC, CNCS, ACL, ED, HHS.
Single Audit Finding Resolution tool (SAFR)
Quick access to findings relevant to agency grant management staff.
Single Audit Finding Resolution tool (SAFR)

Increasing the visibility of finding resolution across agencies.
Single Audit Finding Resolution tool (SAFR)

Improved communication between grantees and affected agencies.
Priorities for grants modernization from prospective partner agencies.

**Theme: Cross-agency collaboration**
Display cross-agency grants lifecycle data

**Representative quotes**
Recipient Snapshot - easily see everything needed.
System that has the ability to display all grants awarded across agencies;
will then alert again when single audit is required.

9 responses from agencies including OMB, DOJ, NSF, Energy, USDA, HHS

**Theme: A solution that meets agencies’ needs**
Reduce burden and save costs for people

**Representative quotes**
Reduce recipient burden.
Reduce burden for government, auditors, auditees and save $.
Develop scalable solution; design program/system for majority of agencies;
reduce burden/cost.

3 Responses from Agencies including NSF, OMB
Distiller

Streamlines the process of identifying audits that are relevant to specific agencies provide easier access to data - reducing processes from hours to minutes.

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Get in Touch

Emails:
- federal-grant-reporting@gsa.gov (team)
- benjamin.peterson@gsa.gov (project lead)

Public GitHub repos:
- github.com/18F/federal-grant-reporting/
- github.com/18F/fac-distiller

Websites:
- fac-distiller.app.cloud.gov/
Machine Learning as a Service (MLaaS)

Presented By: Tiffany Andrews, 18F
Each month, approximately 9,000 surveys are submitted through USA.gov and Gobierno.USA.gov and about 2,000 of these include open-ended comments. With current resources and manual methods, it's tough to take timely advantage of this qualitative data. We're seeking a product and/or process that is somewhat automated (using topic extraction, word/phrase frequencies, or other applications of text analysis) and can help us more quickly respond to users' complaints and suggestions. Thank you!

Submitted by Marybeth M. – November 2017
Machine Learning as a Service (MLaaS)

Work Conducted in Prior Phases

**PHASE ONE**
Researched USA.gov’s process for reviewing qualitative survey data and investigated some automation options.

**PHASE TWO**
Worked with USA.gov to make process improvement by automating parts of the data management and built a prototype to filter survey results.
Machine Learning as a Service (MLaaS)

Current Status

We are building a MVP that will use open text data to provide data insights, by using machine learning models to triage information, identify common themes and provide sentiment.

Tactical Guide
A living “Zero to Hero” guide to building machine learning tools by leveraging government technology and open source libraries.

Current Use Cases
- Employee Feedback Data (human resource)
- Customer Experience Data (customer service/ nonregulatory public comment)
Emails:
tiffanyj.andrews@gsa.gov

Public GitHub repos:
https://github.com/18F/10x-MLaaS
Combating Bias in AI/ML Implementations

PRESENTED BY: Shaudi Hosseini, Census xD
Implementations of AI/ML often suffer from systematic bias created when algorithms are trained on insufficiently diverse datasets that don't match the variety of phenomena the system encounters in practice. This project will institutionalize corrective measures by critically reviewing the datasets used in *previously funded* projects for potential biasing mismatches.

Submitted by Elizabeth G. – March 2017
In the first phase, our project team:

- Confirmed the need for developing tools to identify and mitigate bias along the entire ML pipeline
- Identified research partners and validated our approach with them; started tool research and development; and devised a strategy for creating a set of research-based, user-friendly tools.
Combating Bias in AI/ML Implementations

Current Status

We’re building a toolkit to help people combat data and algorithmic bias in government contexts

Practical Tools
Toolkit to identify and mitigate data quality issues and bias

Workshops
Host workshop(s) to introduce govt stakeholders to data/ML bias

Long-term Goals
Automated tools for bias identification/data auditing; interactive tools that offer suggestions of model choice; tools that allow auditing of the biases of black-box tools built outside the government for federal applications
Get in Touch

**Emails:**
inquiries@xd.gov

**Website:**
Expanding USWDS to Promote Agency Adoption

PRESENTED BY: Corey Nelson, Flexion Inc.
In less than one second, users make unconscious decisions about of the trustworthiness, usability, and content of a website based on visual appearance alone. While the USWDS does provide many features making websites more usable, responsive, and accessible, the basic styles provided may not meet the needs of all agencies’ unique mission and brand. With the passing of the IDEA Act, we expect that even more agencies will be turning to the USWDS for guidance. 10x investment would support new features and guidance that helps agencies more easily meet their branding needs within the USWDS, and reduces the need for customization and deviation from the system.
Work Conducted in Prior Phases

PHASE ONE

Interviews were conducted with 18F, vendor designers for the U.S. Tax Court and CMS, and the USWDS product owner, as well as stakeholders inside TTS; also reviewed USWDS user research.
During our research, we uncovered two distinct areas with a direct impact on the design system’s adoption and focused our attention on:

**The Product**

The components of the design system as well as the information architecture and content of designsystem.digital.gov.

**Knowledge and Guidance**

Communication to agencies; how the USWDS is positioned and marketed; and necessary resources regarding 21C.

**Process**

Our interviews with Secret Service, OIG, FEMA, DHS, TSA, US Tax Court, CMS, HUD, and external vendors partnering with agencies including Treasury, HUD, and USDA shed light on the most requested missing elements needed in future releases. We’ve compiled these in a handoff document for the USWDS team to include in their product roadmap. These interviews also gave us ideas on how agencies could interact with and take part in the USWDS growth and development through a contribution model.

**Results**

Our team also worked closely with the Innovation Portfolio team to draft 21C communications, establish tracking parameters for accurate campaign attribution and analytics, and add digital.gov resources in support of the “USWDS Maturity Model” and newly announced 21C website standards.
Expanding USWDS to Promote Agency Adoption

Get in Touch

Emails:
tts10x@flexion.us

Websites:
Website standards | United States Web Design System
https://designsystem.digital.gov/website-standards/

USWDS maturity model | United States Web Design System
https://designsystem.digital.gov/maturity-model/

21st Century IDEA – Digital.gov
https://digital.gov/topics/21st-century-idea/
Site Scanning

PRESENTED BY: Eleni Gesch-Karamanlidis, 18F
TTS drives the adoption of digital best practices and policy, from mobile-friendliness to online privacy and security - but we currently lack comprehensive, timely data to measure our success. This proposal builds on prior art to create a scanning service that discovers federal websites, then analyzes and presents actionable intelligence for more than 30,000 federal websites on the presence of web trackers and customer feedback tools, USWDS adoption, and security best practices. Data is collected at regular intervals and stored in the cloud, and accessible via a web-based interface that enables staff from any government agency to see information about their programs.

Submitted by Eric M. – July 2018
Site Scanning

Work Conducted in Prior Phases

**PHASE ONE**
Determined that the idea was good and achievable.

**PHASE TWO**
Identified stakeholders and built an MVP for them.
The site scanner is fully operationalized in cloud.gov with an API and a simple UI!

Next steps:

- Full-featured customizable frontend UI built on the API.
- Refine existing scans.
- Expand number of scans and stakeholders served.
- Expand from scanning top level domains to subdomains.
- End with at least one stakeholder using our data in production!
Email: eleni.gesch-karamanlidis@gsa.gov

Public GitHub repo: https://github.com/18F/site-scanning

Website: https://site-scanning.app.cloud.gov/
Thanks for attending!

10x.gsa.gov
10x@gsa.gov