

HAPPY 3RD BIRTHDAY CODE.GOV!

JOSEPH CASTLE



code_

ABOUT ME

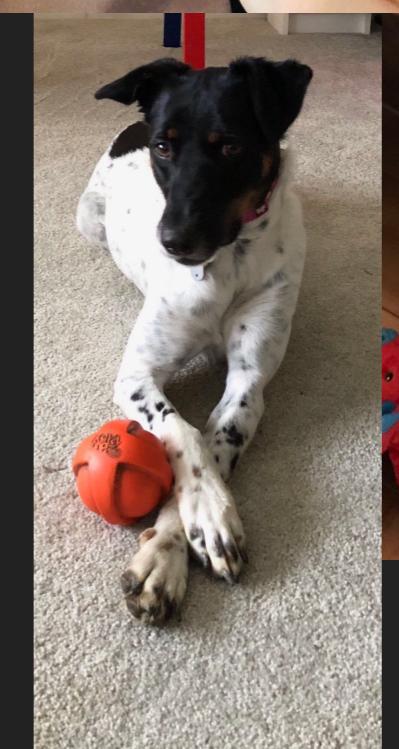
- ▶ Product/team lead for Code.gov
- ▶ GSA 15yrs, Army vet
- ▶ White House experience
- ▶ PhD Candidate at VT



INTRODUCTION

ABOUT THE TEAM

- ▶ Five members, mix of feds and contractors
- ▶ Roles include open source expert, agency outreach, engineering, and communications



WHERE IT ALL BEGAN

U.S. FEDERAL SOURCE CODE (1945-2018)



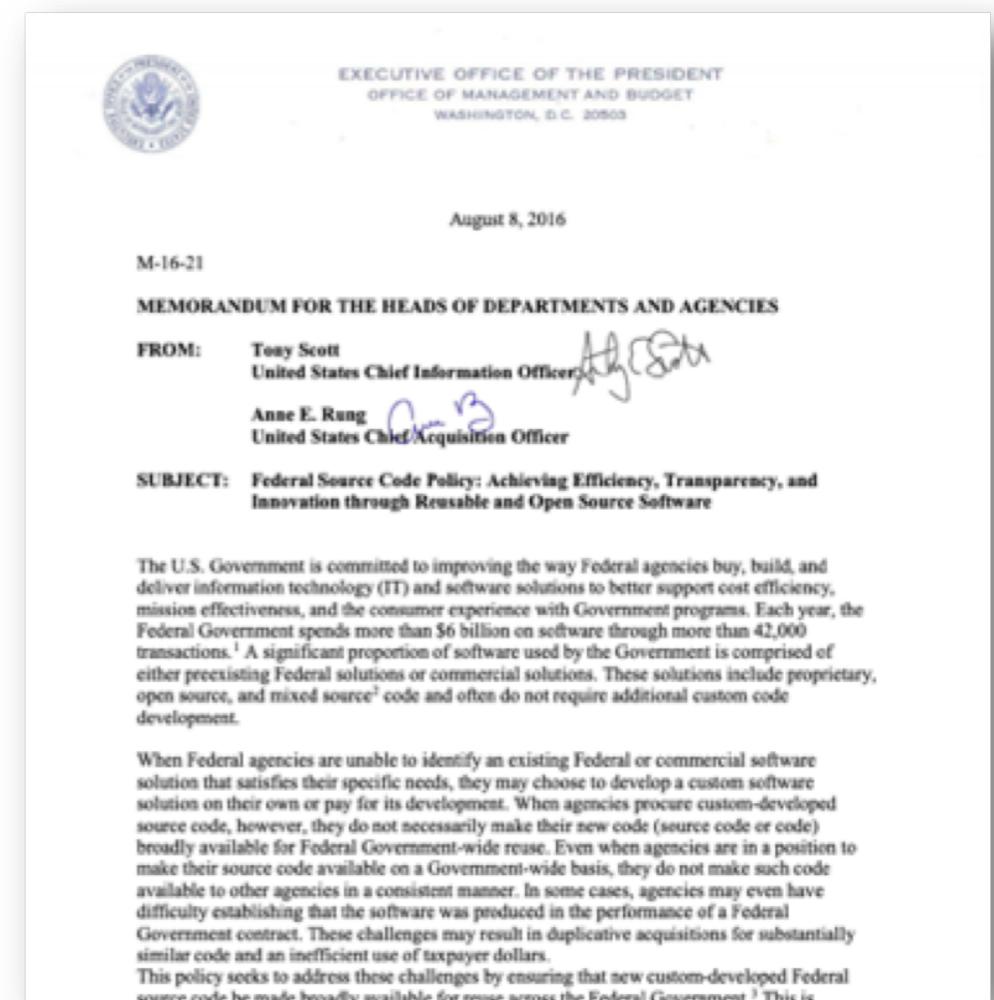
- ▶ Grace Hopper's work at the Harvard Computational Laboratory was a precursor to open source software (OSS)
 - ▶ U.S. government labs using and modifying code
 - ▶ Federal agencies consume OSS but publish less

A large portion of federal agencies utilize closed source software that limits sharing and collaboration, supporting technology operations with costly procurements, and other inefficient processes.

- ▶ Johnson & Sears, 2017

FEDERAL SOURCE CODE POLICY (FSCP)

- ▶ Federal government spends \$6B annually on software
- ▶ In August 2016, the White House published M-16-21 aka the FSCP
- ▶ Agencies develop source code policy, update acquisition language, and inventory code
- ▶ Release at least 20% as OSS



WHERE WE ARE NOW

ABOUT CODE.GOV

- ▶ 100% open source project
- ▶ Website
- ▶ API
- ▶ Agency and public outreach
- ▶ Event participation

The screenshot shows the homepage of Code.gov. At the top, there's a dark header bar with the American flag icon and the text "An official website of the United States government [Here's how you know](#)". Below this is a navigation bar with the "code_" logo, "ABOUT", "BROWSE PROJECTS", "FEDERAL AGENCIES", "DEVELOPERS", and "SOCIAL" links. The main title "Sharing America's Code" is prominently displayed in a large white font on a blue background, with the subtitle "Unlock the tremendous potential of the Federal Government's software." underneath. Below the title is a search bar labeled "FIND CODE" with the placeholder "Search for federal open source software projects and usable code" and a "Go" button. The page is divided into three main sections: "Developers", "Connect with Us", and "Agency Partners". Each section has descriptive text and a call-to-action button. At the bottom, there are two additional sections: "About Code.gov" and "Open Source News & Events".

An official website of the United States government [Here's how you know](#)

code_ ABOUT BROWSE PROJECTS FEDERAL AGENCIES DEVELOPERS SOCIAL

Sharing America's Code

Unlock the tremendous potential of the Federal Government's software.

FIND CODE
Search for federal open source software projects and usable code

e.g. *JavaScript, NASA, web standards*

Go

Developers

The Code.gov website is developed publicly on GitHub. Learn how to [contribute here](#). Help improve America's Code by exploring Open Tasks.

[Explore Open Tasks](#)

Connect with Us

Have questions or feedback? [Open an issue](#) on our open source repository.

Want to receive our monthly newsletter?

[Sign Up Here](#)

Agency Partners

Federal agency partners use Code.gov to share usable open source code, promote open source projects, and track compliance with federal open source policy.

[Compliance Dashboard](#)

About Code.gov

Code.gov is the federal government's platform for sharing

Open Source News & Events

An official website of the United States government [Here's how you know](#)

code_ [ABOUT](#) [BROWSE PROJECTS](#) [FEDERAL AGENCIES](#) [DEVELOPERS](#) [SOCIAL](#)

Overview
Introduction
Tracking Progress
Compliance
[Agency Compliance](#)
How to Procure Software
How to Inventory
Validate Schema
Open Source Pilot
Introduction
Tools and Resources
How to Measure
Licensing

 Environmental Protection Agency
Partially compliant

-  Agency policy is consistent with the Federal Source Code Policy.
-  Agency has open sourced greater than 20% of their custom developed code.
-  Agency has inventoried more than 50% of new custom code.

 General Services Administration
Fully compliant

-  Agency policy is consistent with the Federal Source Code Policy.
-  Agency has open sourced greater than 20% of their custom developed code.
-  Agency has inventoried 100% of new custom code.

 National Aeronautics and Space Administration
Fully compliant

-  Agency policy is consistent with the Federal Source Code Policy.
-  Agency has open sourced greater than 20% of their custom developed code.
-  Agency has inventoried 100% of new custom code.

 National Science Foundation
Partially compliant

-  Agency policy is consistent with the Federal Source Code Policy.
-  Agency has open sourced greater than 20% of their custom developed code.
-  Agency has inventoried more than 50% of new custom code.

 Nuclear Regulatory Commission
Partially compliant

The logo consists of the word "code" in a dark blue sans-serif font, followed by a teal underscore character.

Code.gov Tech

Build your own tools using our API to access Code.gov data. Configure your own version of code.gov.

[Overview](#)

[API Basics](#)

[Routes and Field Reference](#)

[API Key](#)

[Configure Front-End](#)

[Feedback](#)

API basics

The Code.gov API is a GET API. With this API, you will be able to explore the software projects that federal agencies have published in accordance with the [Federal Source Code Policy](#).

There are two basic endpoints:

- `/repos`: this endpoint will let you query all federal repositories that have been indexed by us.
- `/terms`: this endpoint will let you query all terms we have indexed as part of our data harvesting process. These terms will help you in your search efforts.

Additional Notes

The rate limit for the API is currently 5,000 calls/day and 5 calls per 5 seconds. As we move forward and understand the impact of usage of the API, we will adjust the limits accordingly as well as allow for individual users with specific needs to have customized rate limits appropriate to their use.

Example URL

The URLs provided below are for initial browsing of API data. This DEMO_KEY will not work after a certain number of attempts. Users can request a personal key from [api.data.gov](#). The personal key will have more data access capabilities.

- https://api.code.gov/repos?api_key=DEMO_KEY
- https://api.code.gov/terms?api_key=DEMO_KEY

Output

The output data will be in JSON format.

API Clients

We have a couple of API clients on our roadmap.

An official website of the United States government [Here's how you know](#)

code_ ABOUT BROWSE PROJECTS FEDERAL AGENCIES DEVELOPERS SOCIAL

BROWSE PROJECTS

[Home](#) > Browse Projects

Search Projects... Go 6558 Repositories

Filter Sort by Data Quality Data Quality Score ?

Language

- Assembly
- C
- C#
- C++

Show more

Federal Agency

- Agency for International Development
- Consumer Financial Protection Bureau

data-act-broker-backend 8.2

The DATA Act broker backend is a collection of services that power the DATA Act's central data submission platform. To increase access to and use of federal financial data in order to strengthen government-wide decision-making and accountability through data transparency, the broker relies on hundreds of distinct data elements to tell the story of how federal dollars are spent.

Agency: [Department of the Treasury](#) Last Updated: 6/4/2019

Usage Type: Open Source
Languages: html, css, python
License: Creative Commons Zero v1.0 Universal

Go to Repo

data-act-broker-web-app 8.2

The DATA Act broker website is the front-end to the DATA Act broker backend. To increase access to and use of federal financial data in order to strengthen government-wide decision-making and accountability through data transparency, the broker relies on hundreds of distinct data elements to tell the story of how federal dollars are spent.

An official website of the United States government [Here's how you know](#)

code_ ABOUT BROWSE PROJECTS FEDERAL AGENCIES DEVELOPERS SOCIAL Q

OPEN TASKS

[Home](#) > Open Tasks

There are 65 open tasks

Filter

Federal Agency

- Consumer Financial Protection Bureau
- Department of Defense
- Department of Energy
- Department of Health and Human Services

Show more

Skill Level

- Beginner
- Intermediate

Explore Open Tasks

[API Agency Issues Report Accuracy?](#)

Agency: [General Services Administration](#) Last Updated: 8/19/2019

Languages: Not Available Type: Bug Skill Level: Beginner Effort: Small

[Add broken links to status report](#)

Agency: [General Services Administration](#) Last Updated: 4/30/2019

Languages: Not Available Type: Enhancement Skill Level: Intermediate Effort: Large

[multilingual support?](#)

Agency: [General Services Administration](#) Last Updated: 12/25/2018

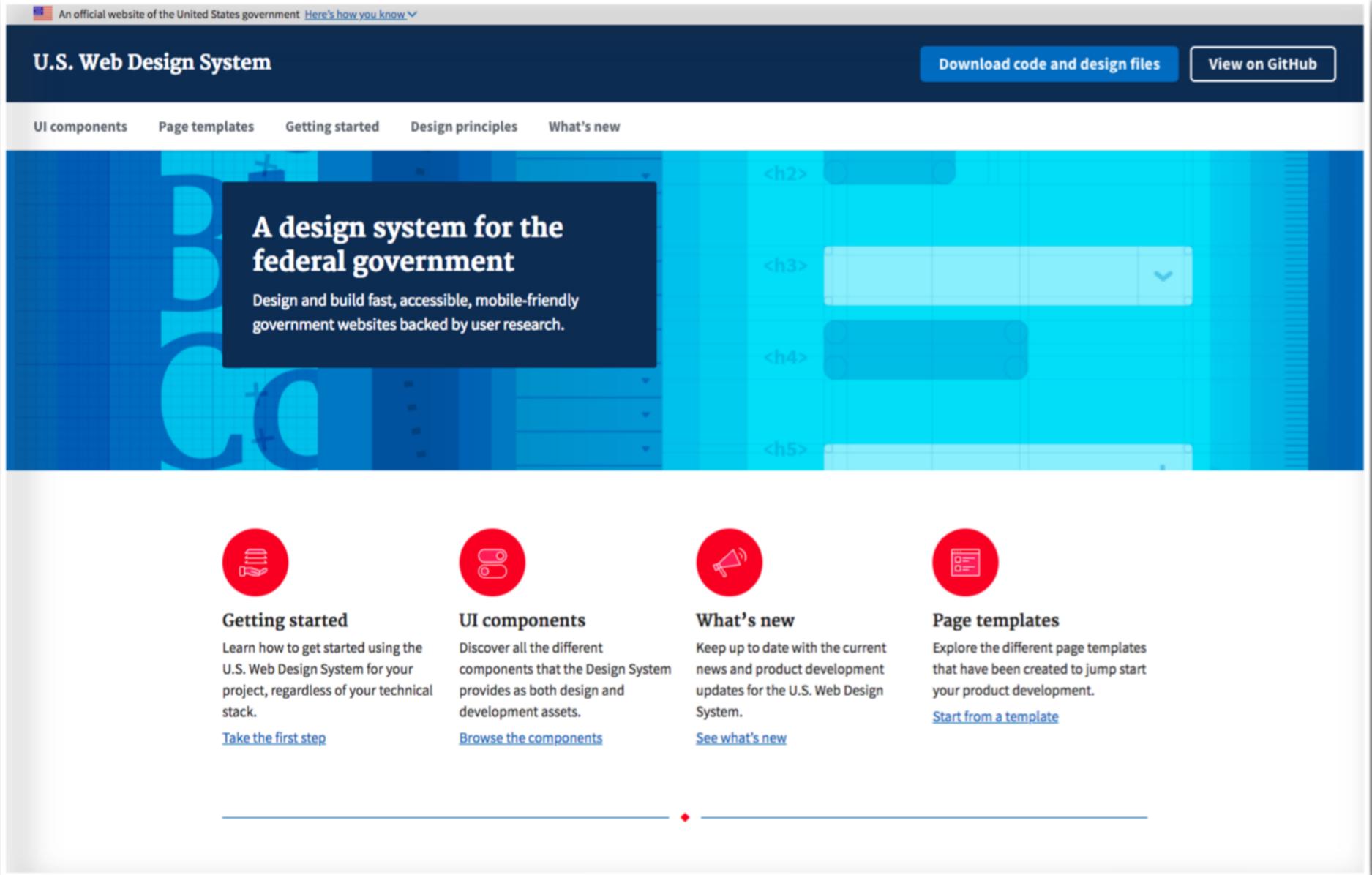
<https://code.gov>

Projects on Code.gov

The image displays four GitHub repository pages from different government organizations:

- NSA/CSS Ghidra**: A repository for the NSA's Ghidra tool, which is a software for analyzing malicious code. It has 3,563 commits and 12 branches.
- CDCgov MicrobeTrace**: A platform for viewing and comparing genomic and contact-tracing networks. It has 941 commits and 7 branches.
- FHWA Cooperative Automation Research Mobility**: An operations research project. It has 6 commits and 4 branches.
- LLNL Software Portal**: A catalog of 515 software repositories. Some featured projects include zfs, spack, and pdsh.

GSA's US Web Design System



The screenshot shows the official website of the United States government's U.S. Web Design System. At the top, there is a banner with the text "An official website of the United States government [Here's how you know](#)". Below the banner, the title "U.S. Web Design System" is displayed, along with "Download code and design files" and "View on GitHub" buttons. The main navigation menu includes "UI components", "Page templates", "Getting started", "Design principles", and "What's new". The "Getting started" section features a large blue background with white text: "A design system for the federal government" and "Design and build fast, accessible, mobile-friendly government websites backed by user research.". To the right, there is a visual representation of a page structure with nested headings (h2, h3, h4, h5) and a sidebar. Below this, four cards provide links to "Getting started", "UI components", "What's new", and "Page templates". Each card has a red circular icon with a white icon: a hand holding a scroll for "Getting started", a gear for "UI components", a megaphone for "What's new", and a document for "Page templates".

An official website of the United States government [Here's how you know](#)

U.S. Web Design System

[Download code and design files](#) [View on GitHub](#)

UI components Page templates Getting started Design principles What's new

A design system for the federal government
Design and build fast, accessible, mobile-friendly government websites backed by user research.

Getting started
Learn how to get started using the U.S. Web Design System for your project, regardless of your technical stack.
[Take the first step](#)

UI components
Discover all the different components that the Design System provides as both design and development assets.
[Browse the components](#)

What's new
Keep up to date with the current news and product development updates for the U.S. Web Design System.
[See what's new](#)

Page templates
Explore the different page templates that have been created to jump start your product development.
[Start from a template](#)

LLNL's Open Source Software

The screenshot shows the LLNL Software Portal homepage. At the top, there is a large, stylized logo composed of overlapping blue and teal arrows pointing right. The header includes the Lawrence Livermore National Laboratory logo, the "LLNL Software Portal" title, and navigation links for "RADIUSS", "News", "About", "Explore", and social media icons for GitHub and Twitter. A "Fork me on GitHub" badge is visible in the top right corner. Below the header, a circular graphic displays logos for various open source projects: RADIUSS, CDAT, CONDUIT, bLIT, flux, BRAID, ESGF, and shroud. The text "Open Source" and "LAWRENCE LIVERMORE NATIONAL LABORATORY" is centered below the graphic. A welcome message reads: "Welcome to the LLNL software portal—a hub for our open source projects. Our [full catalog](#) is updated regularly as repositories are added or modified." The page is divided into three main sections: "APPLICATIONS", "BUILD TOOLS", and "DATA MANAGEMENT & VIZ". Each section features a circular icon and a brief description. Below each description is a list of projects with their names, star ratings, and GitHub links.

APPLICATIONS

Browse scientific simulation codes and IT management tools

Project	Stars
MacPatch	67 ★ ⓘ
cardioid	15 ★ ⓘ
Task-Time-Tracker	10 ★ ⓘ
coda-calibration-tool	5 ★ ⓘ

BUILD TOOLS

Automate and simplify complex dependencies and deployments

Project	Stars
spack	1173 ★ ⓘ
bLIT	83 ★ ⓘ
shroud	31 ★ ⓘ
uberenv	3 ★ ⓘ

DATA MANAGEMENT & VIZ

Manage visualizations with robust features and configurable analysis

Project	Stars
zfp	224 ★ ⓘ
glvis	77 ★ ⓘ
visit	58 ★ ⓘ
conduit	48 ★ ⓘ

NSA's Open Source Software

**NSA-Developed
Open Source
Software**

Welcome to the National Security Agency's Open Source Software Site. The software listed below was developed within the National Security Agency and is available to the public for use. We encourage you to check it out!

Search for repos...

Apache accumulo

Apache Accumulo

0 281 727

Apache NIFI

Automates the flow of data between systems. NiFi implements concepts of Flow-Based Programming and solves common data flow problems faced by enterprises.

0 43

AppLocker-Guidance

Configuration guidance for implementing application whitelisting with AppLocker. #nsacyber

0 120

AtomicWatch

Intel Atom C2000 series discovery tool that parses log files and returns results if a positive match is found. #nsacyber

0 12 16

beer-garden

The beer-garden application

0 15 146

BitLocker-Guidance

Configuration guidance for implementing BitLocker. #nsacyber

0 11 21

Blocking-Outdated-Web-

Certificate-Authority-

CodeGov

WHERE WE ARE GOING

FUTURE DIRECTION

- ▶ Enhancements to the platform
- ▶ Studies to better understand federal OSS environment
 - ▶ Federal Source Code Study - FSCS (next slide)
 - ▶ Value of federal source code - Spring 2020
- ▶ Events - Federal Source Code Summit - April 16th
 - ▶ For feds by feds
 - ▶ 1/2 day

FEDERAL SOURCE CODE STUDY (FSCS)

- ▶ 20 of 24 CFO Act agencies participated
- ▶ Collected data through interviews and documents
- ▶ Analyzed organizational aspects to implement the FSCP and publish OSS
- ▶ Findings - most agencies see value in using and publishing OSS, agencies seeking more guidance
- ▶ Supporting development of Toolkit with process tutorials and document templates

THANK YOU!



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Code.gov



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