Good morning. Today, I want to introduce **Project Constellation**—a bold solution to a costly problem: the massive, wasteful duplication of technology across government.

Every year, agencies reinvent the wheel, building software that already exists elsewhere. Why? Because finding proven solutions is nearly impossible. They're buried in hundreds of separate websites and repositories, described in inconsistent, technical jargon.

Project Constellation changes that. It's a unified, intelligent library system designed specifically for **discovery and re-use**.

Imagine a platform where, instead of starting from scratch, a city employee could simply ask, in plain language, "How do I set up a system to notify residents about water quality?" The system would understand that request. It would instantly show them not just one solution, but a range of relevant, pre-built components from other cities and states—like notification engines, data dashboard templates, and compliant procurement documents. Each component comes with a clear "re-use score" based on its successful deployments.

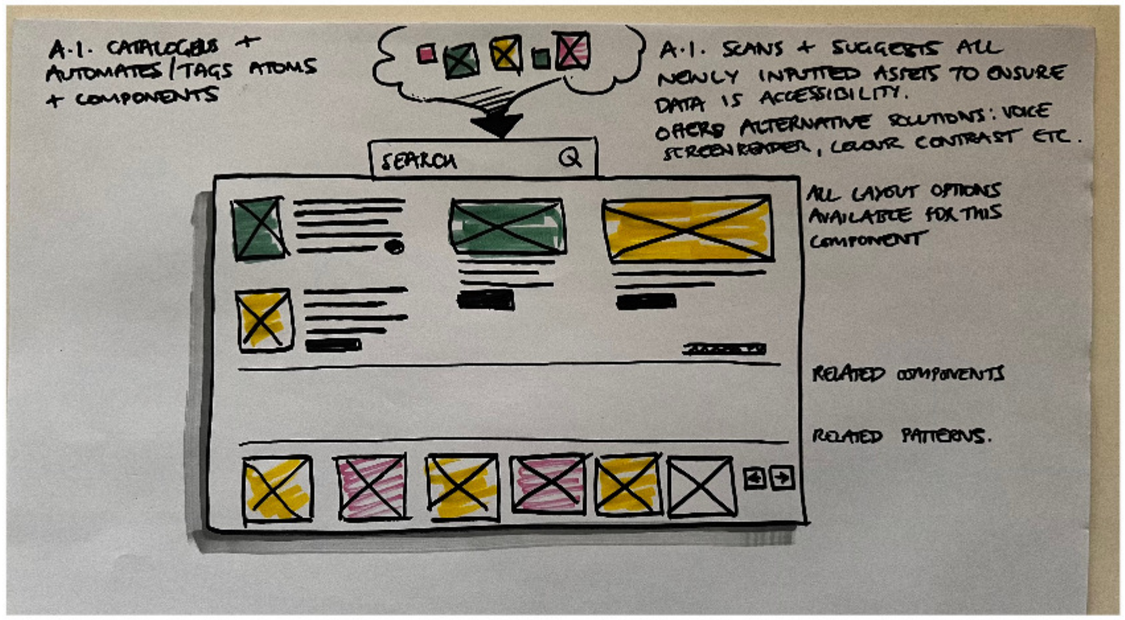
The magic lies in five integrated components:

1. An **AI Classification Engine** that automatically tags and organizes every uploaded asset into a universal, searchable catalog.
2. A **Multimodal Search** that understands natural language, even sketches or diagrams, to find exactly what you need.
3. A **Learning Feedback Loop** that tracks what works and makes the system smarter with every search.
4. An **Interoperability Hub** that shows how components can connect, turning discovery into practical, plug-and-play assembly.
5. And foundational **Universal Access**, ensuring the platform is fully usable by everyone, with voice search, screen reader optimization, and adaptable interfaces.

The impact is clear: dramatic cost reduction, faster project delivery, and higher-quality public services. We shift from building in isolation to building together.

Project Constellation isn't just a new website. It's a new capability—a strategic investment that turns our collective past work into our greatest asset for the future.

Thank you. We are ready to build it.



tim.etheridge@os.uk
LinkedIn

verity@hithertoai.org
LinkedIn

veronica.wojnas@justice.gov.uk
or LinkedIn

How might people find what they need through **language** they naturally use?

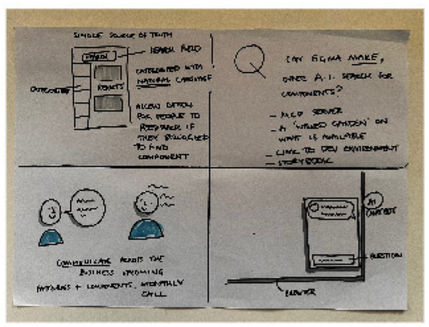
Where we're from

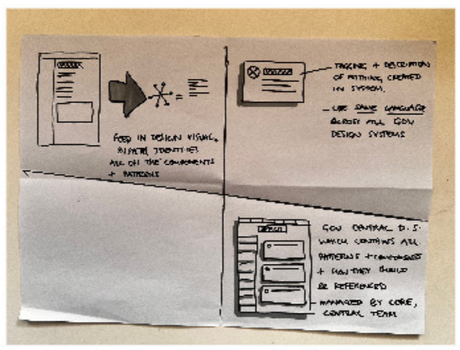
Tim Etheridge, Ordnance Survey

Verity IX, Consultancy working with public service orgs

Veronica Wojnas, MOJ

Suggesting related components/ patterns (like bookshelves in a library or Amazon recs: "People also looked at ___")





Verity IX

2. "Pain Point First" Conversational Search Layer
A natural language search engine layered over all agency code repositories and procurement databases. Instead of searching "CMS," users ask, "I need a way to let citizens securely upload documents on a mobile phone," and it returns relevant modules, RFPs, and existing solutions.

4. Procurement & Project Pattern Library
A searchable database of successful past RFPs, contract clauses, and project charters tagged with outcomes. Helps reformers start with proven language and requirements, dramatically speeding up procurement for re-usable solutions.

7. Problem-to-Solution Thesaurus (Controlled Vocabulary for Citizens' Needs)
A crowd-sourced and curated ontology that maps the thousands of ways citizens describe a problem ("I need food help," "Can't pay for groceries," "SNAP benefits") to the official program names and technical components that solve it. Powers the search layer in Idea #2.

1. "GovTech NPM" / Universal Component Registry & Manager
A centralized, public registry (like npm or Maven) for verified, open-source government tech components (UI widgets, form templates, API connectors, compliance modules). Each component has machine-readable metadata for security, accessibility, and dependency checks.

5. Interoperability Profile Builder
A wizard that helps agencies define their specific needs (data standards, legacy systems, security requirements) and generates a "compatibility profile." This profile is matched against a catalog of pre-built, interoperable modules that are guaranteed to work within those constraints.

8. Re-usability Scorecard & Badging System
An automated audit tool that analyzes any new government tech project proposal or delivered system and assigns a "Re-use Score" (like a credit score). It evaluates modularity, documentation, API design, and licensing. High-scoring projects get priority funding and a "Re-Usable by Design" badge.

3. Visual "Tech Stack DNA" Mapper
A tool that visualizes the architecture of existing government systems as modular building blocks. Users can see how systems in other states/countries are assembled (e.g., "Authentication + Payment Processor + Form Builder = License Renewal Service") and clone the "DNA" pattern.

6. "GovTech GitHub" with Social Proof & Forks Dashboard
A government-mandated platform for sharing code, but with enhanced metrics: not just stars, but "Live Deployments" (e.g., "This notification engine is live in 12 counties"), "Fork-to-Launch" success stories, and clear maintenance responsibility badges.

**Licensure of (anonymized) data generated by the system AI is licensable to labs to fund the system and infrastructure.

Our combined idea:


Project Constellation: A Federated Discovery & Re-Use Platform for Government Technology
Vision Statement
To transform government technology from a landscape of isolated, redundant systems into a connected ecosystem of discoverable, interoperable, and re-usable solutions. Project Constellation will serve as the intelligent "central nervous system" for public sector tech, enabling policymakers, procurement officers, and developers to find exactly what they need using the language of public service, not bureaucracy.
Core Problem & Solution
Agencies waste billions reinventing the wheel, struggling to find existing solutions buried in fragmented repositories. **Project Constellation** solves this by creating a unified, intuitive, and intelligent library system that doesn't just catalog assets but actively guides users to proven solutions and compatible components.
Proposed System Components
1. Foundation: The Adaptive Classification Engine
- **AI-Powered Standard Taxonomy:** Upon upload of any asset (code, RFP, architecture diagram, compliance checklist), a trained AI model automatically analyzes the content. It assigns a **cross-domain, standardized classification** (inspired by but extending beyond systems like Dewey Decimal) that tags the asset by function, domain, technology stack, and compliance profile.
- **Dynamic Metadata Enrichment:** The system generates a rich, machine-readable metadata profile, including inferred dependencies, security postures, and potential use cases, creating a future-proof digital


-Standard Classification System - cross domain assigned automatically upon upload via AI.
-Search Bar - Reveals What was Sought + adjacent relevant results - including Pain Point Search - Natural language search, auto-suggest, icons within search, visual of card, upload drawing to model, sharing existing drawings from the system)
- Feedback system with timers, analytics (how long before user satisfied, did they find their result or choose adjacent result, ranking for use-reuse (quantitative)
- Suggested use - Interoperability (Similar Components, Modular/Convertible usage,)
- Accessibility - screen reader, voice search, Large accessibility portal upon entry that auto adjusts interface to user

Project Constellation: A Federated Discovery & Re-Use Platform for Government Technology

Vision Statement

To transform government technology from a landscape of isolated, redundant systems into a connected ecosystem of discoverable, interoperable, and re-usable solutions. Project Constellation will serve as the intelligent "central nervous system" for public sector tech, enabling policymakers, procurement officers, and developers to find exactly what they need using the language of public service, not bureaucracy.

Core Problem & Solution

Agencies waste billions reinventing the wheel, struggling to find existing solutions buried in fragmented repositories. **Project Constellation** solves this by creating a unified, intuitive, and intelligent library system that doesn't just catalog assets but actively guides users to proven solutions and compatible components.

Proposed System Components

1. Foundation: The Adaptive Classification Engine

- **AI-Powered Standard Taxonomy:** Upon upload of any asset (code, RFP, architecture diagram, compliance checklist), a trained AI model automatically analyzes the content. It assigns a **cross-domain, standardized classification** (inspired by but extending beyond systems like Dewey Decimal) that tags the asset by function, domain, technology stack, and compliance profile.
- **Dynamic Metadata Enrichment:** The system generates a rich, machine-readable metadata profile, including inferred dependencies, security postures, and potential use cases, creating a future-proof digital

2. Discovery: The Multimodal Search & Intelligence Layer

This is the user-facing heart of Constellation, offering multiple pathways to discovery:

- **Universal "Pain-Point First" Search Bar:** A natural language interface where users can describe a need in plain terms (*"How do I set up emergency alert notifications for seniors?"*). The engine uses the classification taxonomy and problem thesaurus to return exact and adjacent relevant results.
- **Advanced Discovery Features:**
  - **Visual & Schematic Search:** Users can upload a rough drawing or diagram of a system need. The engine uses visual recognition to suggest matching or complementary architectural components from the library.
  - **Icon-Driven & Auto-Suggest Browsing:** For users unsure how to phrase their need, intuitive icons and real-time query suggestions guide exploration.
  - **Rich Result Cards:** Each search result displays a visual snapshot—dependency charts, compatibility badges, live deployment stats—allowing for quick, informed evaluation without opening multiple documents.

3. Learning: The Closed-Loop Feedback & Analytics System

To ensure the library becomes smarter and more relevant, we embed continuous learning:

- **User Feedback with Context:** Simple "Was this helpful?" prompts are tied to timers and session analytics, measuring **Time-to-Solution**.
- **Pathway Analytics:** The system tracks whether users found their result directly, pivoted to an adjacent suggestion, or combined assets. This reveals hidden connections and improvement opportunities in the classification schema.
- **Quantitative Re-Use Scoring:** Assets are ranked not just by popularity, but by a **Re-Use Score**—a composite metric of downloads, successful implementations (fork-to-launch), and user satisfaction ratings.

4. Interoperability: The "Plug-and-Play" Compatibility Hub

Discovery is futile if components cannot work together. This module ensures re-use is practical.

- **Suggested Use & Modular Pairings:** When viewing a component (e.g., an identity verification module), the system automatically suggests **compatible or complementary components** (e.g., specific payment processors or data storage solutions) used successfully in other deployments.
- **Interoperability Profiles:** Each asset clearly displays its standards compliance, API specifications, and modularity, allowing teams to assess integration effort instantly.

5. Access: The Universally Inclusive Interface

Equitable access is non-negotiable for public goods.

- **Proactive Accessibility Portal:** Upon entry, users can declare or automatically activate interface adjustments—high contrast, screen reader optimization, dyslexia-friendly fonts, or simplified navigation.
- **Voice-First Search:** Full compatibility with voice search and commands, ensuring the platform is usable for those with mobility or visual impairments, and convenient for all.
- **Compliance as Standard:** All platform interfaces meet and exceed WCAG guidelines, and all promoted assets must document their own accessibility conformance.

Implementation & Impact

Phased Rollout:

1. **Phase 1:** Launch core AI classifier and search layer with a pilot repository from 2-3 forward-leaning agencies.
2. **Phase 2:** Integrate feedback analytics and re-use scoring, onboarding a critical mass of federal and state components.
3. **Phase 3:** Roll out full visual search, interoperability tools, and advanced accessibility features, establishing Constellation as the mandated first stop for all new government tech initiatives.

Expected Outcomes:

- **Reduced Redundancy:** Cut duplicate software procurement and development by 30-50%.
- **Accelerated Delivery:** Shrink project timelines by enabling "assembly over assembly-line" development.
- **Increased Quality:** Promote battle-tested, compliant, and accessible solutions to the forefront.
- **Empowered Teams:** Equip public servants at all technical levels to be effective solution-finders.

Project Constellation