

Gold Standard UX for Government: Usable, Accessible and Adoptable from the Ground Up

GSA Fleet Modernization

September 23, 2022

Today's Objective

We are here today to discuss how we leveraged multiple frameworks to successfully modernize and innovate with GSA. We'll walk through the GSA initiative, the frameworks, and what this all means for you.

Agenda

- Introductions
- GSA Initiative Overview
- Our Approach & Methodologies
- Initiative Retro
- Key Takeaways
- Q&A

Introductions

Who we are

Greetings to All!

- Creative Design
- Developers & Testers
- Analysts & Scrum Master
- Program/Product Managers
- Are you undergoing a modernization also?
- Human Centered Design Agile/Scrum familiarity



Jessica Murray

is the Director of the Product Integration Division for GSA Fleet. This division is responsible for managing the 19 legacy applications that power business operations as well as the cloud-native modernization and product management efforts currently underway. Jessica joined GSA Fleet in 2010 and holds a Bachelor's of Arts from Clemson University and is a certified Lean/Agile practitioner.



Jamie Lindabury

is the Branch Chief for the Product Integration Division and is responsible for the implementation of software products, human centered design, change management, vision, and strategy for the modernized fleet system (GSAFleet.gov). Jamie manages a team that is responsible for supporting the Product Managers with a centralized communications strategy, training needs, usability testing, or helping to facilitate other user feedback methods.



Melissa Glasser

is a managing consultant within the Digital and Emerging Technology practice at Guidehouse. She has served as the Product Lead and Product Designer for the Catalog product for GSA's Advanced Fleet Software Modernization project.



GSA Initiative Overview

GSA Overview

GSA Mission

The Office of Fleet Management's (GSA Fleet/QMD) mission is to provide safe, reliable, low-cost vehicle solutions that assist federal agencies in effectively and efficiently meeting their mission and federal mandates. GSA Fleet manages mandatory Government-wide vehicle acquisition programs, provides Federal agencies full-service vehicle leases, and offers short term vehicle rentals.

GSA Current State

In order to meet this mission, GSA Fleet personnel, customers, and other internal and external stakeholders currently use 20 disparate systems, some obsolete for system expansion or future growth.

Our Solution: Modernization

Embarking on Modernization

A complete systems modernization is underway to modernize the functionality within the 20 legacy systems into a single integrated system. As GSA Fleet embarks on its systems modernization, the resulting applications and value-added fleet management services enabled by the enhanced automation will be made available to agencies as service offerings to improve their fleet management. This modernization will allow agencies across the government to reap the benefits of the resulting solution and enhance a widely leveraged shared service.

What does modernization solve?

- 20 disparate, mainframe legacy applications – 20 sets of user permissions, foundations of architecture of how people interact with the system
- Data quality and governance
- Laborious and manual processes
- Shadow IT
- Challenging User Experience – slow, inefficient, not unified, manual data entries

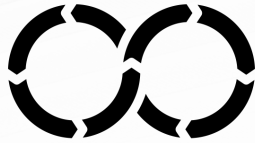
Year 2/5 Outcomes & Successes

- GSA engineers are working in the system to manage vehicle standards
- License plates are being managed in the system
- Dev, Test, Stage and Production environments
- Established the inventory management related features
- Releasing all the features needed to decommission another legacy platform, FedFms this month
- Data migration and write-back is still a challenge

Our Approach & Methodologies

How are we doing it?

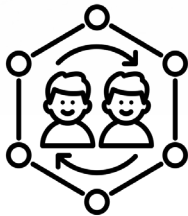
Our Approach & Tools



Human-Centered Design



Agile & Scrum

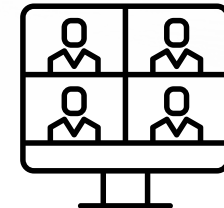


Accessible Design



Our Guiding Principles

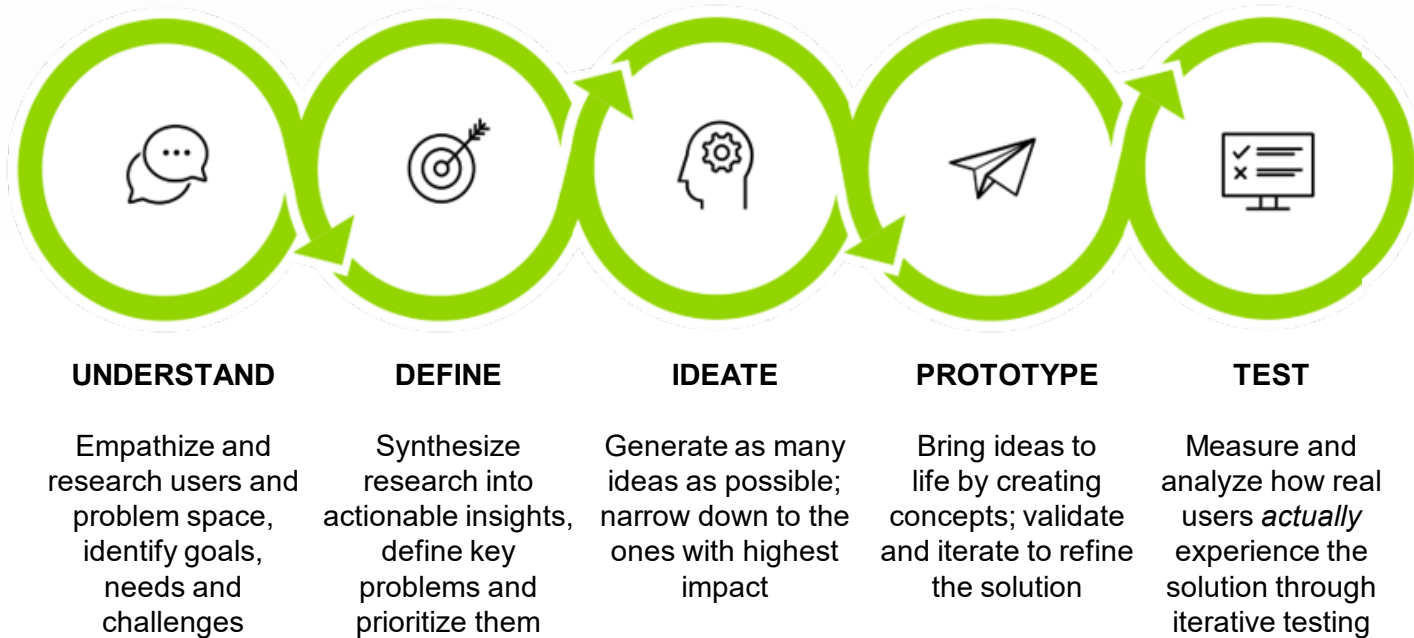
Minimize Time to Value Excel at Change Build for Outcomes



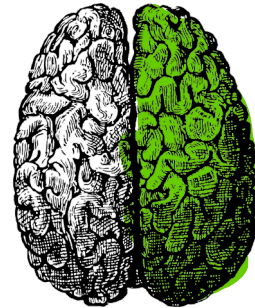
Remote Facilitation Tools

Human-Centered Design

Human-Centered Design (HCD) is a framework to solve complex problems. This framework integrates a set of practices to understand users—their needs, constraints, contexts, behaviors, and wants—so that you can build deep empathy with them, generate multiple ideas to help solve their problems, and arrive at a solution via rapid prototyping.



traditional approach



human-centered design approach

Prioritize conventional research, industry trends, and traditional competitors

Fall in love with an idea or solution

Build comprehensive business cases and project plans with agreed upon deliverables

Output over outcomes

Obsess over customers' functional and emotional needs

Fall in love with a problem

Use an iterative approach that prioritizes speed and learning over perfection

Outcomes over output

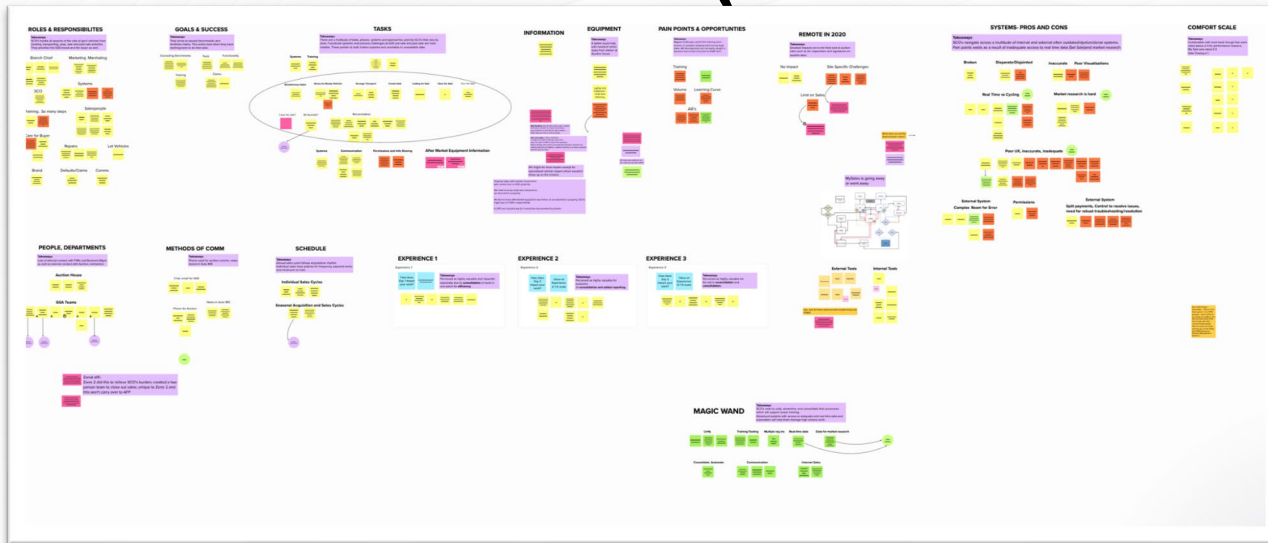
1. Understand (HCD Process)

In the Understand Phase, we research end users and the problem space where we ask them critical questions to set the course of the project, and to identify goals, needs, and challenges. We tailor our methods to the needs of end users and conduct quantitative and qualitative research to glean insights on the most important features and capabilities. The outputs from the Understand Phase inform the Define Phase.

Common activities and tools

- Empathize with users and stakeholders by conducting user and business research
- Interviews with representative users from each product
- Synthesis
- Research Readouts
- Personas
- User Journeys

1. Understand (HCD Process)

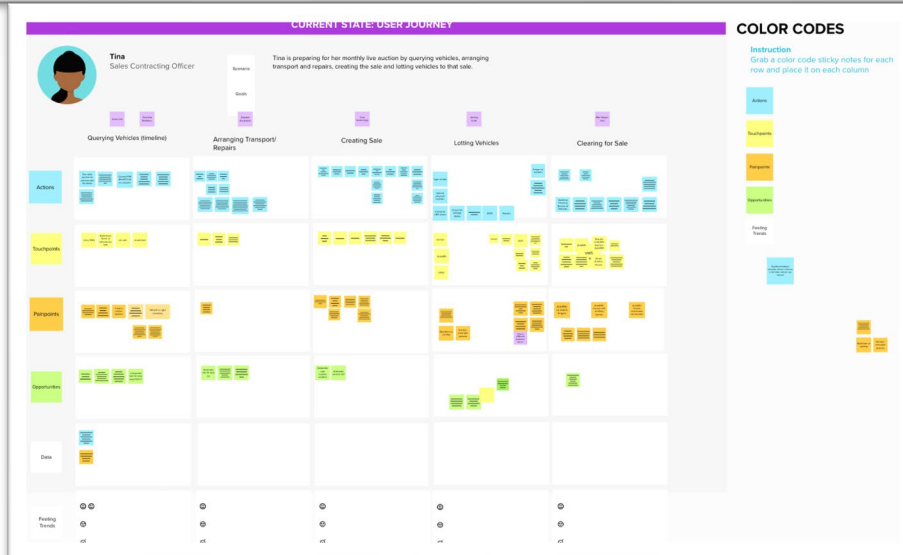


Two groups will work independently using breakout rooms to brainstorm ideas for how to solve painpoints we identified in our interviews and journey mapping sessions.

Breakout Room 1



Ensuring every vehicle is followed



1. Understand (HCD Process)

How we implemented for GSA:

- Interviews with users and stakeholders
- Current state analysis
- Affinity map, persona, journey map

I asked Jamie how he thinks a user centered approach to research has helped him as a leader to better understand the people we are building for.

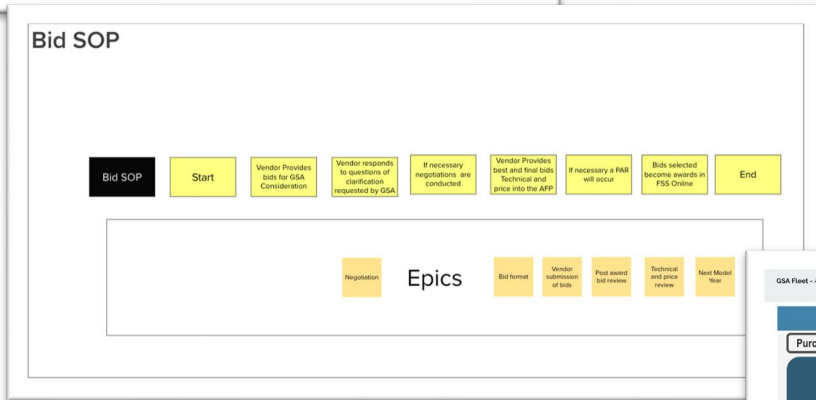
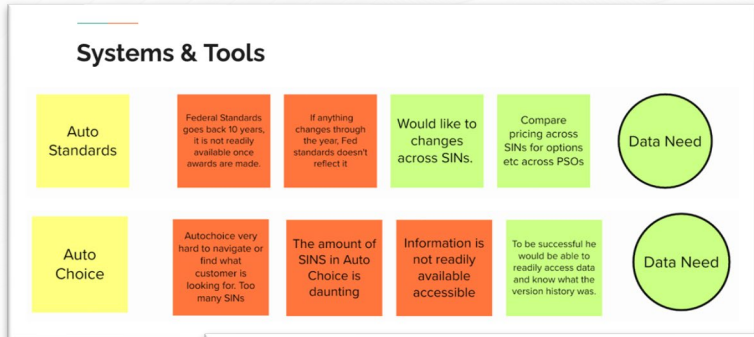
2. Define (HCD Process)

The second stage in the process is about clarity, focus and definition. Gather all the insights you've collected— consumer need states and barriers, lifestyle realities and cultural influences—to begin to make sense of the landscape of solutions you're exploring. What themes or patterns are bubbling to the surface? What unmet needs came out of left field? What unexpected barriers might shift our focus? Are we asking the right questions, and do we need to reassess our assumptions about the task at hand?

Common activities and tools

- Personas, journeys, and research readouts to build consensus around problems
- Design hypothesis
- Product teams write experience plans, features, epics and user stories
- Prioritization exercises to understand effort, impact and priority
- Weighted Shorted Job First (WSJF)
- Development strategies : Sliver, Program Roadmap, decommissioning strategy

2. Define (HCD Process)



3-Year Roadmap by Features

FY21	FY22	FY23
Purchasing Vehicle	Purchasing Vehicle	Leasing/Rental/Opt-In
<ul style="list-style-type: none"> Engineer Workspace (90%) Federal Vehicle Standards Management Offering; Contract Management Inspection; Vendor Management 	<ul style="list-style-type: none"> Bid Management Market Research; Vendor Management 	<ul style="list-style-type: none"> Vehicle Management; Vehicle Recalls; Preventive Maintenance Task Management; Reporting Vehicle Dispatch; My Fleet Health Customer Management; My Inventory
<ul style="list-style-type: none"> Compare Vehicles (80%) Customer Management Order Management MAS - Non-Standard Order 	<ul style="list-style-type: none"> Order Management Funding Request Vehicle Replacement; Vehicle Transfer Notification; Customer Management; Telematics 	<ul style="list-style-type: none"> Accident Management MCC/AMC Offered Service
<ul style="list-style-type: none"> Task Management MVP (100%); Vehicle Registration Rate Management for Purchasing Billing and Payment 	<ul style="list-style-type: none"> Billing and Payment Common Components and API Management 	<ul style="list-style-type: none"> Vehicle Post-Sale Europe/OCONUS Improve Shopping Experience; Specialty Vehicle Sales; Damage In Transit
Leasing Vehicle	Leasing Vehicle	
<ul style="list-style-type: none"> User Management; Notification; Access Control Vehicle Registration; License Plate Management Repair Management Vehicle Pre-Sale; Vehicle Assignment Rate Management for Leasing; Billing for Leasing 	<ul style="list-style-type: none"> License Plate Management Vehicle Management; Vehicle Recalls Repair Financials; Modifications Case Management and Procurement Pricing Estimation Guide Vehicle Marshalling; Vehicle Sale Billing for Leasing; Funding Request Fixed Asset Management; Account Management 	<ul style="list-style-type: none"> Lifecycle Costing; Forecasting Fleet Card Transactions and Management Performance Metrics Approvals; Financial Sustainability Model Reporting Common Component and API Management Bid Management Short Term Rental Program

2. Define (HCD Process)

How we implemented for GSA:

- Recommendations from research
- Product Experience plans
- Development framework (Sliver, data, user, decommission)
- Estimations and prioritizations

3. Ideate (HCD Process)

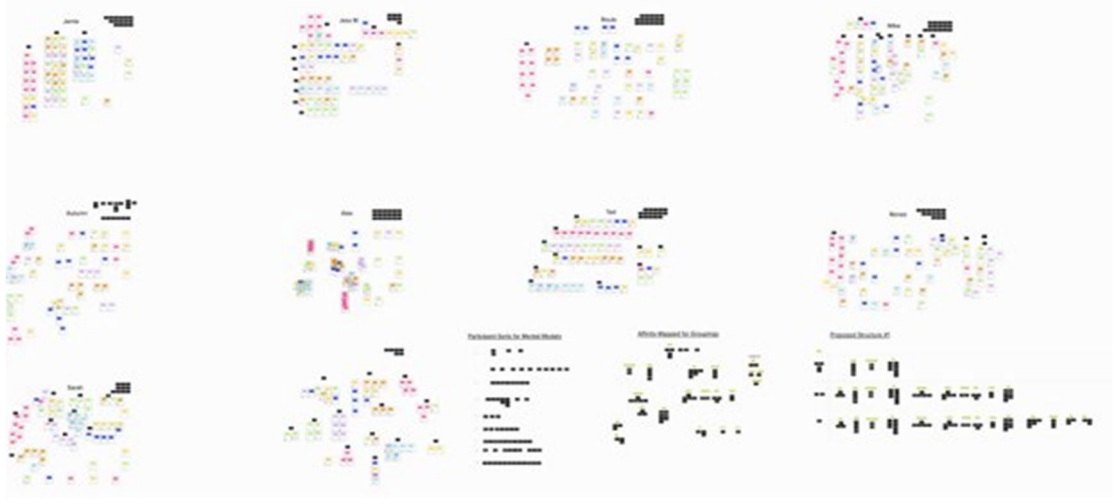
During this phase, ideas are generated in the form of questions and solutions by way of brainstorming. Designers are encouraged to use creativity and innovation to develop concepts that address the needs of users. Assumptions should be challenged at this phase. Sketches, storyboards, affinity mapping should be developed at this stage.


Common activities and tools


- User flows, process flows, business architecture, service blueprints – co-creation
- Rapid ideation workshops
- Sketches, storyboards and affinity mapping
- Group think – Card sorting for IA


3. Ideate: Card Sorting for IA

Jamie



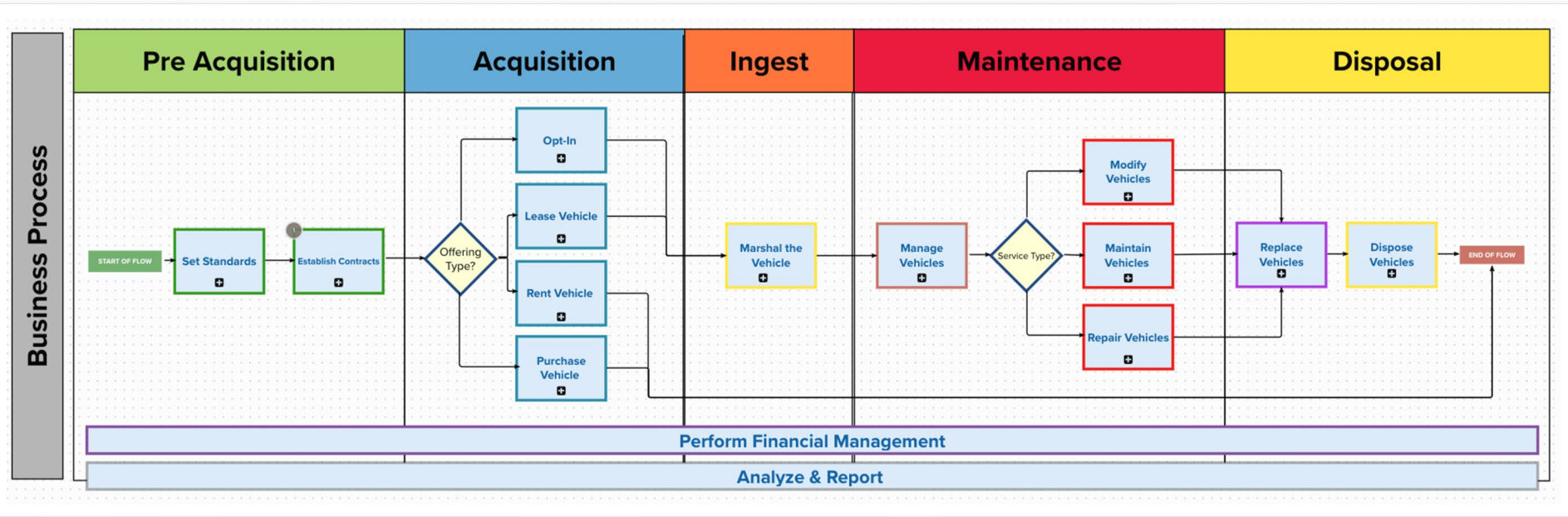
 An official website of the United States government [Here's how you know](#) ▾



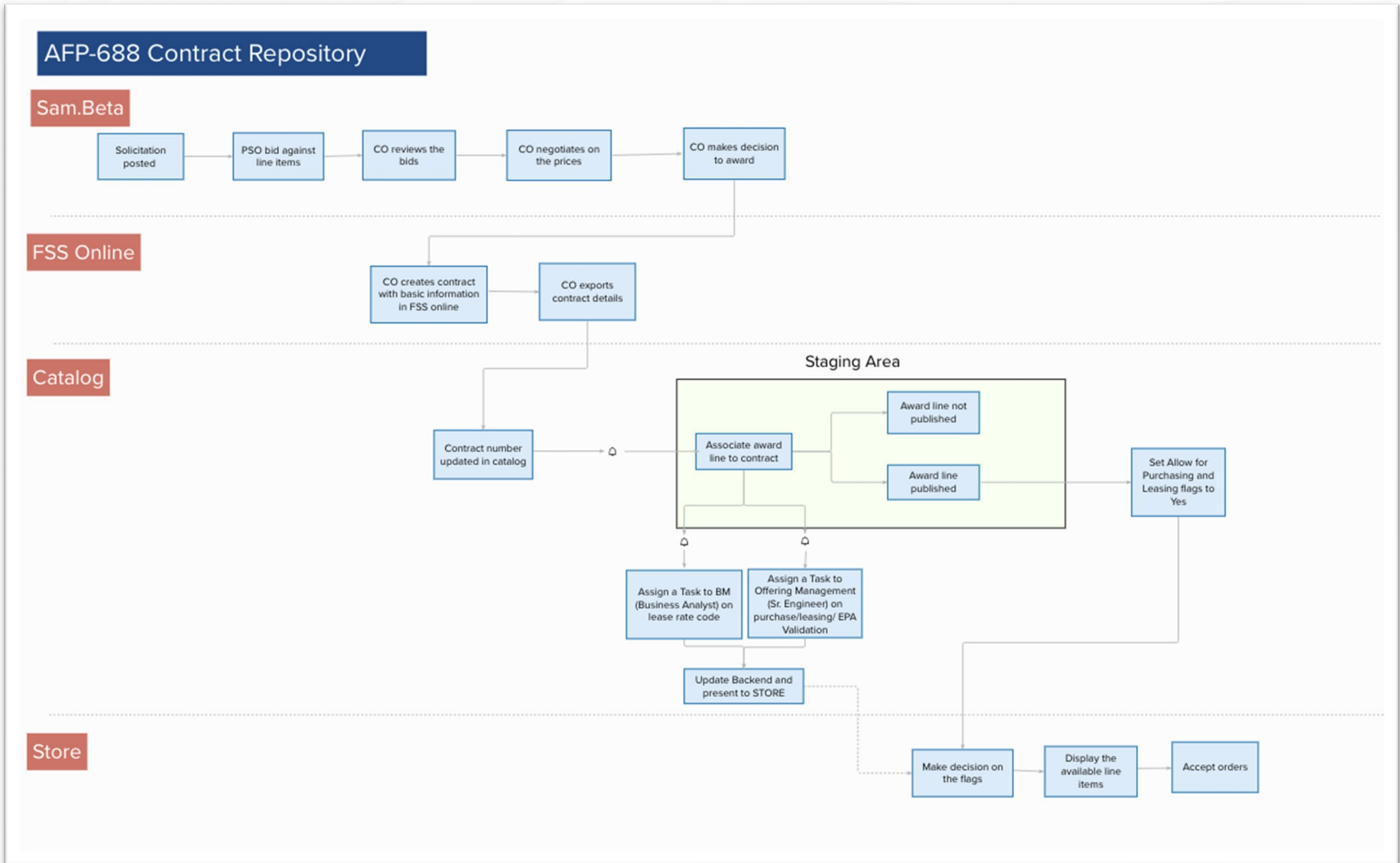
 [Alexander Winton](#) >

[Offerings](#) ▾ [Manage My Fleet](#) ▾ [Vendor Partners](#) ▾ [Tasks](#)

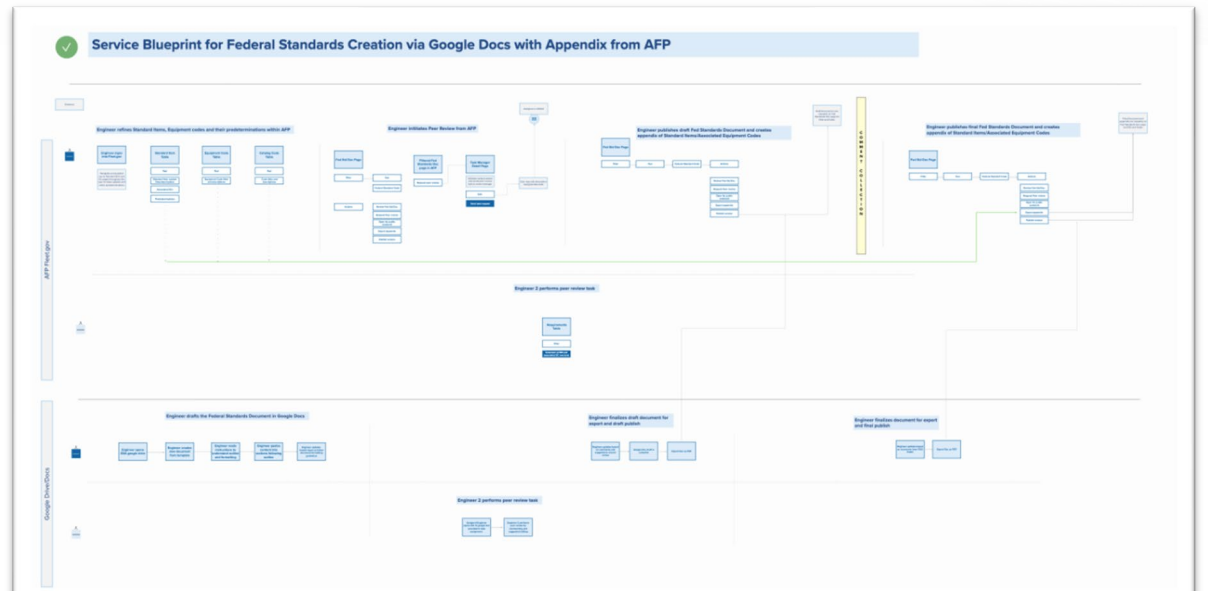
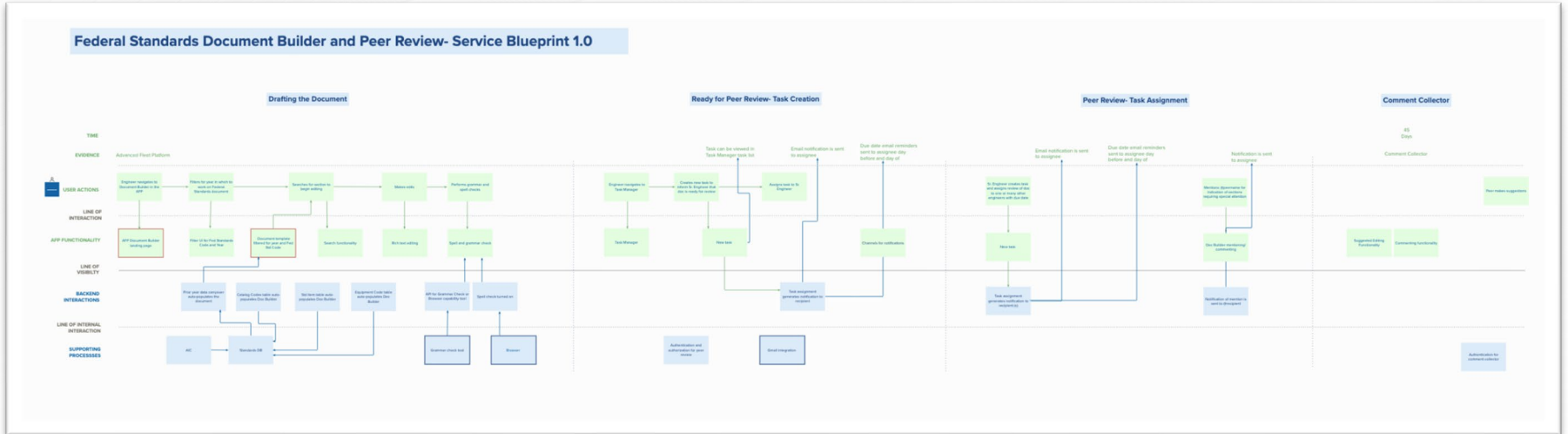
3. Ideate: Business Architecture



3. Ideate: Process Flows



3. Ideate: Service Blueprints



3. Ideate (mental models, co-create)

Met with 5 representative customer agencies to understand their mental models and how they group vehicles and their team to inform user role structuring in the system



3. Ideate (HCD Process)

How we implemented for GSA:

- Card sorting for Information Architecture
- Business architecture, service blueprints, process and user flows
- Workshops for the future state with SMEs, design, product and development
- Mental model workshops with customer agencies for grouping of users and customers

We reflected on all the artifacts and workshops over the last two years. I asked Jess to explain a bit of her take on the client experience of the ideation process.

4. Prototype (HCD Process)

The prototype phase is all about experimentation: transforming ideas into tangible “artifacts.” Regardless of the task at hand, rapid prototyping is a crucial step in gaining insights quickly without much effort from the design team. Consumer understanding is key in putting each solution to the test, to highlight any gaps, barriers, constraints, or flaws in the concept.

Throughout this stage, proposed solutions may be improved, redesigned or rejected through a series of reviews and critiques from the broader team. This rapid iterative process does many beneficial things: It allows creatives to be imperfect and detach from their work, it embraces collaboration by “piggybacking” ideas from different sources, and it depersonalizes the creative process in a way that empowers teams.

Common activities and tools

- Low, medium and high-fidelity artifacts
- Cross-functional team collaboration
- Design system
- Component library
- Accessibility from the ground up, buy in from design, dev and product

4. Prototype (HCD Process)

Federal Vehicle Standards

There are currently 4 open commenting periods. [View commenting periods.](#)

Details

Contract year: 2021
 Federal Standard code: 1822 - Ambulances
 Status: Draft

Related information

Document name	Description	Effective date	Status	Actions
910-527-45.pdf	Federal Standards document	09/14/2021	Final	...
910-476-5.pdf	Minimum Requirements appendix jctcs, commoals, uscgsp, al, pherona rlas, etc. Does require run.	10/29/2021	Draft	...
910-476-5215.pdf	Ambulance diagram	09/14/2021	Draft	...

Create a Requisition: Compare & Select

210 AMBULANCE, TYPE-I-AD CONV. CAB-CHASIS, ADDITIONAL DUTY

Enter Quantity of Vehicles: 2

Minimum Requirements	\$28,000	\$30,000	\$35,000	\$37,000	\$40,000
Engine	STANDARD	\$000	OPTIONAL	\$000	OPTIONAL
ALTERNATIVE FUEL	\$000	\$000	\$000	STANDARD	OPTIONAL
BRAKES	\$000	\$000	\$000	\$100	\$100
Drive Axle	\$000	\$000	\$000	STANDARD	STANDARD
Custom Paint	\$00	\$00	OPTIONAL	NOT AVAILABLE	\$00

Additional Requirements

The Additional Requirements (AREQ) option code allows customers to request specific equipment not listed in the Compare & Select page. You will be required to provide information detailing your additional requirements before sending the requisition to GSA for their review.

Calculate Price

Total Selling Price:	\$28,000	\$30,000	\$35,000	\$37,000	\$40,000
Start your Requisition	Select This Model	Select This Model	Non-Selectable Model	Non-Selectable Model	Non-Selectable Model

Vehicle Registration

Use this form to register a federally owned and operated vehicle with GSA.

1 of 3 **Vehicle and license plate information**

Vehicle information

Please review the information below to confirm it is the correct information and vehicle. If you are manually entering a VIN for vehicle registration, please enter the entire VIN in the VIN field below. If the VIN is verified, the Make, Model and Year of the vehicle will be populated. Please review the information to ensure accuracy.

VIN*
 [Validate VIN](#)

Vehicle type*

Year* Make* Model* Color*

Fuel type* FAST reportable*

License plate information

In order to register your vehicle you must enter a valid license plate number or have an exemption from the requirement to display official U.S. Government license plates for this vehicle under sections 1,107-24,106, 1,102-24,117 or 1,102-24,118.

The Agency has an exemption from the requirement to display an official U.S. Government license plate.

Federal license plate* Expiration date Bureau

State license plate on vehicle

[Next](#) [Cancel registration](#)

4. Prototype (HCD Process)

Design System
& USWDS

Checkboxes and radio buttons

Radio Button Item Base

- Radio item
- Radio item
- Radio item

Checkbox Item Base

- Check box item
- Check box item
- Check box item
- Check box item

Checkbox Item Filled Base

- Check box item

Radio button group

- Honda Odyssey
- Ford Explorer
- Chevy Trailblazer

Checkbox group

- Check box item
- Check box item
- Check box item
- Check box item

Filled checkbox group

- Check box item
- Check box item
- Check box item

vertical spacing →

4. Prototype (HCD Process)

How we implemented for GSA:

- Mural and Figma – low to high fidelity, interactive prototypes
- Cross-functional collaboration
- Design system and component library

Our designers meet with GSA product teams weekly to get feedback on prototypes. I asked Jamie how he thinks that rapid iteration between reviews supports us building the right thing at the right time?

5. Test (HCD Process)

Low fidelity prototypes and screens can be tested to receive user insights quickly without much effort from the design team. Fidelity can increase as needed during the iterative HCD process as we learn more about users and their interactions and impressions with our product or service.

Common activities and tools

- Frequent feedback from SMEs and users through design reviews and usability testing sessions
- Accessibility testing through browser extensions and with disabled users
- User Acceptance Testing
- Iterate based on feedback

5. Test (HCD Process)

How we implemented for GSA:

- Weekly design reviews for feedback from Product Owners, Managers, SME stakeholders and GSA legacy IT
- Pre-development usability testing with users, iteration after feedback
- Accessibility testing with every build and at releases with disabled GSA users
- User Acceptance Testing

I asked GSA where they've seen testing improve the product?

Agile & Scrum

Agile manifesto

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

Agile & Scrum

Scrum Values

Courage, Focus, Commitment, Respect, Openness

Scrum Principles

1. Control over the empirical process. In Scrum, the empirical process is based on observation of hard evidence and experimentation rather than theory. ...
2. Self-organization. ...
3. Collaboration. ...
4. Value-based prioritization. ...
5. Time-boxing. ...
6. Iterative development.

Agile & Scrum

How we implemented for GSA

- 2-week sprints, scrum masters who uphold scrum values
- Ceremonies- sprint planning, daily stand up, retro and demo; PI planning & Retro

I asked Jess and Jamie if they had to recommend Agile for a project, what they say are the benefits.

Accessibility

Throughout the GSA initiative, we have prioritized building an accessible product. We have buy-in at every level: design, development, testing, product and leadership.

Common activities and tools

- WCAG 2.0
- Universal Design
- Design Systems
- Testing

How we implemented for GSA

- Designing in compliance with WCAG 2.0



Initiative Retro

What's working well and what we can do better?

Initiative Retro

The image displays a grid of 24 retrospective cards, organized into 4 rows and 6 columns. Each card represents a retrospective session and includes the following information:

- Title:** A title identifying the retrospective, such as "Team Charlie Retrospective - PI...", "Team Delta Retrospective - S...", "BM Team Phoenix PI6 Sprint 25...", "Catalog - Retrospective - PI6 Sp...", "VMS - Retrospective - PI6 Sprint...", "Sprint 24 - Common Capabili...", "Sprint 21 &22 - Common Capabi...", "VMS Pi6 Sprints 24, 23, 22, and...", and "VMS Pi6 Sprint 21 Retro".
- User:** A circular profile icon with a letter code (e.g., SL, RT, AS, MG, DR, VC, JS, JL, JS, MG, DR, VG, JB).
- Timestamp:** A timestamp indicating when the retrospective was modified, such as "Modified 2 months ago", "Modified 3 months ago", "Modified 4 months ago", "Modified 5 months ago", and "Modified 6 months ago".
- Thumbnail:** A small preview image of the retrospective content, which typically shows a grid of colored boxes (green, pink, orange) representing different categories or items discussed during the session.
- Star Icon:** A small star icon in the top-left corner of each card, indicating it is a favorite or bookmarked item.

Initiative Retro

- **How we implemented for GSA**
- Retros with each sprint and program increment- what's going well, what is not, what actions can we take?
- Enforces transparency and relies on and builds trust within the team and the program

I asked GSA what they learn and gain from our retro practice and findings.

Key Takeaways

What does this mean for you? How can you leverage HCD, Agile & Scrum?

Key Takeaways

- Build for users by talking to them and get them trying what you design/build
- Inspect & adapt
- Pivot mercilessly without guilt
- Data, data, data

I asked Jess and Jamie what are some of the most important things they've learned that they want to share with others involved in large scale modernizations

Questions?

How can we help you?

Thank you!

We wish you a wonderful conference.

Your Guide

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