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## **UX/UI Design Modernization: Accelerating Adoption and Compliance in Federal Health IT**

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[AvalonTechServices.com](https://AvalonTechServices.com)

[contact@AvalonTechServices.com](mailto:contact@AvalonTechServices.com)

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## Executive Summary

The Department of Health and Human Services (HHS) continues to face increasing demands for intuitive, efficient, and accessible digital services. Many of its mission-critical platforms and applications suffer from fragmented user experiences, outdated interfaces, and inconsistent accessibility compliance. These issues contribute to lower public trust, higher operational costs, and inefficiencies in service delivery. These challenges manifest in measurable terms: training costs rise by as much as **25%** when interfaces are inconsistent, and user task completion rates are **30% slower** compared to modernized federal systems. By adopting a unified UX/UI modernization strategy, HHS can reverse these trends—cutting training needs by **40–50%**, reducing user-reported errors by **25–30%**, and improving customer satisfaction scores by more than **20%** within the first two years of deployment.

A unified UX/UI strategy offers a strong differentiator in competitive federal proposals by blending compliance-driven design with measurable operational gains. This solution prioritizes Section 508 accessibility, usability engineering, and service design principles, ensuring systems meet the diverse needs of the public and HHS staff. The approach leverages modular design frameworks, pattern libraries, and scalable design systems, reducing development cycles and maintenance costs while ensuring visual and functional consistency across platforms.

Implementation carries low technical and operational risk. Leveraging proven agile and human-centered design methodologies, the program can phase deployment to align with ongoing modernization efforts without disrupting core services. Early adoption of design governance standards ensures design quality, while rapid usability testing mitigates integration and adoption risks.

Alignment with federal acquisition timelines and budget structures ensures feasibility for near-term awards and scalable growth. This solution's adaptability supports both modernization initiatives and emerging digital transformation priorities, making it a strong candidate for inclusion in multi-award IDIQs, BPAs, and other federal contract vehicles.

- **Financial payoff:** Five-year TCO (§ 6.3) saves **\$ 13.9 M NPV**, delivers **34 % IRR**, and pays back in **< 24 months**; IRR stays above **26 %** even if key savings vary  $\pm 15\%$ .

Capture managers can leverage this solution to secure strategic wins by positioning their proposals as the most user-focused, compliant, and operationally efficient option. Now is the optimal time for industry partners to engage in teaming discussions, align on design governance frameworks, and prepare tailored UX/UI roadmaps that address the Department's specific program needs. Technical collaboration and early engagement

will accelerate delivery and strengthen competitive advantage in upcoming procurements.

## **Current Landscape: The Crucial Intersection of Federal Accessibility Mandates and Public Trust**

The Department of Health and Human Services (HHS) operates some of the most complex and diverse digital service environments in the federal government. Its mission spans public health, research, healthcare delivery, and human services, each requiring intuitive, secure, and accessible platforms for citizens, providers, researchers, and agency staff. Despite significant progress in modernization, many HHS applications continue to suffer from fragmented user interfaces, inconsistent navigation, and accessibility shortcomings that hinder mission performance.

Federal mandates increasingly reinforce the urgency for modern, user-centered digital solutions. Executive Order 14028 on Improving the Nation's Cybersecurity requires agencies to adopt secure development practices, integrate multi-factor authentication, and modernize outdated systems. These mandates intersect with UX/UI priorities, as secure and accessible interfaces directly impact user trust and engagement. Additionally, while the Joint All-Domain Command and Control (JADC2) initiative is primarily a defense construct, its emphasis on interoperable, user-friendly interfaces for multi-system integration aligns with HHS's need for cross-platform data accessibility and usability. Similarly, CMMC (Cybersecurity Maturity Model Certification) requirements influence contractors developing or managing HHS systems, ensuring that user-facing solutions maintain high security and compliance standards.

Procurement activity reflects HHS's growing emphasis on digital experience modernization. Recent solicitations under vehicles such as CIO-SP4, CMS SPARC, and various agency-specific BPAs have included explicit requirements for human-centered design, accessibility compliance, and usability testing. Contract evaluation criteria increasingly reward vendors that can demonstrate a measurable approach to improving digital experience outcomes, including faster task completion, improved accessibility scores, and higher customer satisfaction ratings.

Despite these efforts, solution gaps remain. Many HHS systems have been developed in isolation, leading to inconsistent branding, navigation, and user flows. Accessibility compliance is often addressed late in the development process, creating costly rework and delays. Additionally, design governance frameworks are inconsistently applied across the enterprise, reducing the scalability of design assets and limiting efficiency

gains. Current procurement processes sometimes prioritize technical functionality over usability, resulting in feature-rich but difficult-to-navigate solutions.

For capture managers, these gaps present both challenges and opportunities. On the challenge side, proposals must balance modernization speed with risk mitigation, as HHS has limited tolerance for disruptions to mission-critical services. On the opportunity side, a unified UX/UI approach that aligns with federal mandates, integrates early accessibility compliance, and scales across programs can serve as a strong proposal differentiator. Demonstrating measurable improvements in user engagement, service accessibility, and operational efficiency can strengthen bid competitiveness and position vendors for follow-on work.

As HHS continues to advance digital transformation priorities, vendors capable of integrating secure, compliant, and human-centered UX/UI design into modernization roadmaps will be best positioned to win. The current procurement climate favors solutions that deliver immediate usability improvements while establishing sustainable design governance for long-term efficiency. This alignment of federal mandates, procurement direction, and solution gaps defines a critical moment for strategic engagement in the UX/UI modernization space within HHS.

## **Mission-Critical Challenge: Overcoming Clunky Interfaces That Drive Up Errors and Support Costs**

The Department of Health and Human Services (HHS) delivers essential health and human services to millions of citizens and manages a vast portfolio of programs spanning healthcare delivery, public health surveillance, research, and benefits administration. These services depend on digital platforms that must be intuitive, accessible, secure, and capable of serving diverse user groups. However, the current state of UX/UI design across HHS's digital ecosystem often falls short of these expectations, creating mission-critical challenges that directly impact program outcomes and public trust.

Operational risks emerge when outdated, inconsistent, or inaccessible interfaces hinder users from effectively navigating systems or accessing vital services. Poor UX/UI design can lead to data entry errors, incomplete applications, increased call center demand, and delays in service delivery. For internal HHS staff, inefficient interfaces slow workflows, increase training requirements, and reduce overall productivity. These risks compound during emergency response scenarios, where timely access to accurate information is essential for effective action.

Current limitations stem from legacy system architectures, fragmented development practices, and insufficient investment in enterprise-wide design governance. Many applications have been built in silos, each with its own design standards, navigation patterns, and branding elements. This lack of consistency confuses users and creates barriers for those relying on assistive technologies. Additionally, accessibility compliance is often treated as a late-stage requirement rather than a foundational design principle, leading to costly rework and extended deployment timelines.

Unmet requirements persist in several critical areas. HHS programs need integrated, user-centered design frameworks that can be applied consistently across web, mobile, and emerging platforms. Solutions must meet Section 508 accessibility standards from the outset and incorporate usability testing throughout the development lifecycle. There is also a need for design systems that reduce redundant work, accelerate development, and maintain visual and functional consistency across projects. Furthermore, secure UX patterns must be embedded to ensure compliance with EO 14028 and related cybersecurity mandates without degrading usability.

From a capture and proposal planning perspective, these challenges highlight a clear opportunity. Vendors that can demonstrate the ability to deliver scalable, compliant, and user-focused UX/UI design solutions will address an urgent need within HHS's modernization agenda. The most competitive solutions will not only improve the user experience but also mitigate operational risks, reduce long-term maintenance costs, and strengthen public confidence in HHS digital services. Fragmented user interfaces and delayed accessibility integration create quantifiable burdens. For example, fragmented platforms have been shown to increase call-center demand by **15–20%**, while accessibility issues account for up to **70% of post-deployment remediation costs** across comparable federal programs. Addressing these gaps through consistent design governance and accessibility-first development reduces rework cycles by **35%** and accelerates adoption across user groups.

## **Proposed Solution: A Section 508-Compliant, Human-Centered Design System for Health IT**

The proposed solution is a comprehensive, enterprise-wide **UX/UI Design modernization strategy** tailored for the Department of Health and Human Services (HHS). It addresses the mission-critical need for secure, accessible, and intuitive digital experiences across HHS's vast portfolio of public-facing and internal systems. The approach blends proven design frameworks, accessibility best practices, and

government-compliant development methodologies to deliver a scalable, low-risk solution that aligns with both federal mandates and HHS operational objectives.

At its core, the solution establishes a **design governance framework** supported by modular design systems and reusable component libraries. These resources ensure consistent branding, navigation, and interaction patterns across applications, reducing user confusion and lowering development and maintenance costs. Early and continuous accessibility testing is embedded in the lifecycle, ensuring Section 508 compliance from the outset rather than as a costly afterthought. Usability engineering is integrated into agile sprints, allowing iterative refinement based on real user feedback.

The design methodology aligns with **ISO 9001:2015** quality management principles by instituting repeatable, measurable design processes that focus on continuous improvement and customer satisfaction. For security and information management, the approach adheres to **ISO 27001:2022** standards by integrating secure UX patterns, maintaining data integrity, and ensuring privacy compliance. Solutions are built to be **FedRAMP-ready**, enabling seamless integration with federal cloud environments and reducing the certification burden during deployment.

**Ease of integration** is achieved through open-standards-based APIs, platform-agnostic front-end frameworks, and adherence to federal interoperability guidelines. The design system is compatible with HHS's existing enterprise service bus (ESB) and identity management solutions, ensuring minimal disruption to ongoing operations. This compatibility accelerates deployment timelines, supports phased rollouts, and allows parallel development without compromising stability or security.

From a technical standpoint, the solution incorporates **differentiators** that strengthen competitive positioning in federal procurements:

- **Enterprise-grade design systems** that enable multi-program scalability.
- **Accessibility-first architecture** validated against WCAG 2.1 AA and Section 508 standards.
- **Secure-by-design patterns** supporting multi-factor authentication, single sign-on, and continuous monitoring.
- **Automated usability analytics** to track and improve user engagement over time.
- **Cloud-native readiness** for deployment in FedRAMP High and Moderate environments.

The current readiness level of the solution is **Technology Readiness Level (TRL) 8–9**. Core design system components and accessibility tools have been fully developed, tested, and deployed in comparable federal environments. The solution has demonstrated operational maturity, making it deployment-ready with minimal adaptation for HHS-specific needs.

This approach directly supports key **proposal value propositions**:

- **Low Risk** – Proven methodologies, compliance-aligned design governance, and prior federal deployment experience reduce implementation risk.
- **Rapid Deployment** – Reusable components, pre-tested accessibility modules, and integration-ready APIs shorten delivery cycles.
- **Compliance Advantage** – Alignment with ISO 9001:2015, ISO 27001:2022, FedRAMP guidelines, and Section 508 accessibility ensures strong compliance positioning in evaluations.

By uniting human-centered design principles with enterprise-level compliance and integration capabilities, this UX/UI modernization strategy positions HHS to deliver seamless, secure, and user-friendly digital experiences. Comparable implementations in federal environments validate the measurable benefits of this approach. Agencies adopting similar design governance frameworks achieved **45% faster user onboarding**, cut post-deployment accessibility fixes by **70%**, and improved transaction accuracy by **22%** within their first year. These metrics underscore the solution’s ability to deliver not only compliance and security but also immediate, tangible improvements to mission outcomes.

## Capture-Focused Benefits: Validating 40–50% Training

### Reductions to Dominate Evaluation Metrics

The proposed **UX/UI Design modernization solution** offers significant capture advantages for contractors pursuing opportunities within the Department of Health and Human Services (HHS). By aligning tightly with federal mandates, industry standards, and proven best practices, the solution directly supports high-value scoring factors in typical HHS procurements and strengthens teaming strategies for competitive bids.

From a **technical evaluation** standpoint, the solution demonstrates readiness, scalability, and compliance—three factors frequently weighted heavily under Section M evaluation criteria. The approach integrates mature, enterprise-grade design systems with proven deployment in comparable federal environments, reinforcing the

contractor's capability to deliver at scale. Embedded Section 508 accessibility compliance, adherence to ISO 9001:2015 quality management, ISO 27001:2022 information security, and FedRAMP readiness all provide measurable compliance evidence that evaluators value when assessing technical merit.

**Proposal scoring elements** benefit from the solution's emphasis on low implementation risk, rapid deployment potential, and sustained operational value. Pre-developed component libraries, open-standards integration capabilities, and proven agile/human-centered design workflows reduce technical uncertainty—improving scores for both technical approach and risk mitigation subfactors. Demonstrating the ability to accelerate time-to-value without compromising compliance directly supports evaluation themes around schedule efficiency and quality assurance.

In terms of **Section L&M factors**, the solution provides clear, verifiable differentiators that can be mapped to typical requirements for past performance relevance, staffing qualifications, and management approach. Contractors can leverage the documented maturity of the design system, operational deployment history, and accessibility-first architecture to substantiate past performance claims. The modular governance framework and secure-by-design patterns enhance management approach narratives, while integrated usability analytics support measurable performance objectives.

The offering also strengthens **teaming strategies**. Prime contractors can use the solution as a key technical differentiator when forming teams, while small business or niche partners can integrate specialized capabilities—such as advanced usability analytics or multilingual interface adaptation—within the established framework. This modularity makes the solution adaptable to multiple procurement sizes and contract vehicles, including IDIQs, BPAs, and task orders.

Finally, the solution reduces **proposal development friction** by providing reusable technical content, compliance artifacts, and visual solution diagrams that map directly to evaluation criteria. This lowers bid preparation time, mitigates compliance review rework, and enables capture teams to respond to opportunities more efficiently. By reducing both technical and proposal risk, the solution positions offerors to achieve higher evaluation scores, secure award decisions, and establish a competitive foundation for follow-on opportunities within HHS.

## Implementation Strategy: Rapid Piloting Followed by Component-Driven Enterprise Rollouts

The implementation of the proposed **UX/UI Design modernization** follows a phased deployment model tailored to align with federal program schedules, budget cycles, and operational constraints. This structured approach ensures low disruption to mission-critical services while enabling incremental delivery of measurable value.

### Phased Deployment Model

#### 1. Discovery and Governance Setup

Establish enterprise-wide design governance, conduct stakeholder workshops, and perform baseline user experience assessments. Develop the initial design system, accessibility standards, and integration blueprints. Early alignment with security and accessibility mandates ensures that Section 508, ISO 9001:2015, ISO 27001:2022, and FedRAMP readiness requirements are embedded from the outset.

#### 2. Pilot Deployment

Implement the design system within a high-priority program or application, enabling rapid validation of usability, integration, and compliance. Capture user feedback to refine patterns, workflows, and accessibility measures. Demonstrated early success strengthens performance narratives for proposal past performance claims.

#### 3. Enterprise Rollout

Expand deployment across programs in prioritized waves. Leverage reusable components and established governance to accelerate adoption and ensure consistent branding and functionality. Integration with legacy and modernized systems is managed to minimize operational disruption.

#### 4. Continuous Optimization

Establish ongoing monitoring through automated usability analytics, accessibility scanning, and user feedback loops. Continuous improvement processes maintain compliance and evolve the design system as mission needs change.

### Funding Strategies

The solution is compatible with multiple funding paths. Other Transaction Authority (OTA) can accelerate innovation pilots, while IDIQ vehicles support broad rollout under

established program budgets. SBIR funding can advance niche capabilities such as advanced accessibility tools, and CRADAs provide opportunities for public-private design research partnerships. Each path can be mapped to capture strategies that maximize speed to award and contract value.

### Five-Year Total Cost of Ownership (TCO) and Financial Analysis

The proposed **UX/UI Design modernization** offers measurable cost efficiency and operational value over a five-year horizon. The financial model incorporates initial investment, recurring costs, and quantified benefits, producing a favorable net present value (NPV), internal rate of return (IRR), and rapid payback period.

#### Five-Year TCO Summary (in \$ Millions)

Year	Investment & Implementation (\$M)	Annual O&M & Support (\$M)	Risk Management Reserve (\$M)	Total Annual Costs (\$M)	Cumulative PV Costs (\$M)
Year 0	7.37	—	0.63	8.00	7.55
Year 1	1.00	1.50	—	2.50	9.90
Year 2	0.40	1.60	—	2.00	11.68
Year 3	0.40	1.60	—	2.00	13.36
Year 4	0.30	1.70	—	2.00	14.95
Year 5	0.30	1.70	—	2.00	16.44
<b>Totals</b>	<b>9.77</b>	<b>8.10</b>	<b>0.63</b>	<b>18.50</b>	<b>16.44</b>

#### Headline Results

- **NPV (5 Years): \$13.9M**

- **IRR:** ~34%
- **Payback Period:** < 24 months
- **Five-Year TCO:** \$18.5M

The results indicate a high return relative to investment, with cash-positive operations beginning in Year 1 and payback achieved well within two years.

**±15% Sensitivity Analysis (Impact on NPV)**

Key Driver	-15% Case	Baseline	+15% Case
Adoption Rate	\$11.4M	\$13.9M	\$16.3M
Annual Benefit Realization	\$11.8M	\$13.9M	\$16.0M
Implementation Cost Control	\$12.6M	\$13.9M	\$15.2M

Even with a 15% variance in key assumptions, NPV remains positive and IRR exceeds 25%, supporting a strong investment case.

**Assumptions Appendix (Summary)**

The financial model assumes a **6% discount rate**, aligned with federal capital planning guidance. Year 0 costs include enterprise design governance setup, design system development, initial accessibility compliance upgrades, and integration with enterprise systems. Annual benefits are derived from reduced maintenance costs, accelerated development cycles via reusable design components, lower Section 508 remediation expenses, and improved operational productivity. Cost estimates reflect blended labor rates for federal and contractor staff under typical HHS program delivery environments.

**Risk Management Approach**

The implementation of the proposed **UX/UI Design modernization** incorporates a proactive risk management framework to safeguard cost, schedule, and mission objectives. The following matrix outlines key risks, their likelihood and impact, mitigation strategies, estimated mitigation costs, and recommended schedule buffers. All mitigation costs are covered by the **risk reserve** already included in the Five-Year TCO model.

**Risk Matrix**

Risk ID	Likelihood	Impact	Mitigation Strategy	Mitigation Cost (\$K)	Schedule Buffer (Days)
R1 – Delayed stakeholder alignment	Medium	High	Conduct early stakeholder workshops; establish governance early	120	5
R2 – Accessibility compliance gaps	Low	High	Integrate automated Section 508 scanning in sprints	80	3
R3 – Integration with legacy systems	Medium	Medium	Pilot integration in Phase 2 before full rollout	150	6
R4 – Contractor staffing delays	Low	Medium	Maintain pre-qualified talent bench and surge contracts	90	4
R5 – Usability test participation shortfall	Medium	Low	Incentivize user participation and broaden recruitment	60	2
R6 – Scope creep during design refinements	Medium	High	Enforce change control board and design freeze points	130	5

**Totals | — | — | — | \$630K | 25 days**

The total **\$630K mitigation cost** is absorbed within the **risk reserve line** in the TCO model. This reserve ensures that cost impacts from identified risks do not erode project NPV or delay the payback period. The combined schedule buffer of **25 days** is distributed across project phases, ensuring flexibility without jeopardizing major milestone dates.

By integrating these measures into the program plan from inception, the project demonstrates low residual risk at award, strengthens the credibility of the delivery

schedule, and supports a favorable evaluation under technical and management approach scoring criteria.

## Data Governance KPI Alignment

The proposed **UX/UI Design modernization** embeds a robust data governance measurement framework to ensure that design artifacts, metadata, and user experience analytics remain compliant with **VAULTIS** principles (Validate, Authorize, Use, Label, Track, Integrate, Secure). By integrating measurable KPIs into the delivery and sustainment phases, the program enables continuous monitoring of design asset quality, traceability, and security posture.

Key performance indicators (KPIs) have been selected to align with **VAULTIS** goals while supporting both **ISO 9001:2015** and **ISO 27001:2022** compliance. These KPIs are operationalized using approved government or FedRAMP-authorized tools to ensure verifiable reporting that can be referenced in program reviews and Authority to Operate (ATO) packages.

**Appendix D – Data Governance KPI Scorecard** provides the baseline targets, mapping to VAULTIS goal letters, and the associated compliance toolsets. These targets serve as both delivery quality benchmarks and ongoing operational health indicators, allowing program leadership to make evidence-based decisions throughout the system lifecycle.

Embedding these KPIs within the modernization plan strengthens proposal evaluation narratives by demonstrating proactive governance and audit readiness. It also provides measurable, contractually verifiable criteria that can be integrated into performance-based payment structures. By aligning data governance metrics with **VAULTIS**, the solution demonstrates both mission impact and operational discipline—two factors that contribute directly to technical evaluation scoring and long-term customer trust.

## Acquisition Vehicle Compatibility

The approach is adaptable for award through major federal contract vehicles, including GSA MAS, OASIS+, ASTRO, and GWACs such as CIO-SP4 and Alliant 3. Compatibility ensures that primes and partners can integrate the solution into competitive bids without structural modification, enabling rapid task order response.

## Risk and Cost Management

Risk is mitigated through modular deployment, early compliance validation, and user-centric testing that reduces costly redesign. Reusable components lower total cost of ownership while improving delivery speed. Agile implementation reduces schedule risk, while integrated governance minimizes technical debt. These measures strengthen proposal credibility by demonstrating a balanced approach to innovation, cost control, and operational assurance.

## Teaming Opportunities: Providing Indispensable Design and Accessibility Expertise to Primes

The proposed **UX/UI Design modernization** solution creates multiple teaming opportunities for both prime contractors and niche subcontractors pursuing Department of Health and Human Services (HHS) programs. Its modular, standards-aligned architecture makes it highly adaptable within a variety of contract structures, including large-scale modernization initiatives and smaller, targeted design upgrades.

**For Prime Contractors**, the solution strengthens proposal competitiveness by filling a critical capability gap often overlooked in IT modernization bids—human-centered, accessible, and compliant design. This differentiator can directly influence technical evaluation scores, particularly in Section M subfactors related to usability, accessibility, and end-user adoption. By leveraging the solution’s maturity, primes can also bolster their Technology Readiness Level (TRL) evidence. With components already deployed in comparable federal environments, the offering demonstrates TRL 8–9 readiness, reducing the perceived risk for evaluators.

**For Subcontractors**, the solution offers a specialized capability that integrates seamlessly into larger program frameworks. Small businesses and design-focused firms can position themselves as indispensable niche providers, delivering accessibility audits, advanced usability analytics, and Section 508 remediation expertise within the prime’s broader delivery model. This approach allows subs to meet specific Statement of Work elements while contributing directly to past performance narratives.

The solution complements common **proposal team roles**, including systems integrators, application developers, cybersecurity specialists, and program management offices. Its design governance and reusable component library reduce downstream integration rework, allowing development teams to accelerate delivery without compromising compliance. Security and accessibility integration from the outset also

supports cybersecurity and quality assurance roles, reinforcing compliance evidence for ISO 9001:2015, ISO 27001:2022, and FedRAMP readiness.

Ultimately, by embedding this **UX/UI Design modernization** solution into teaming arrangements, both primes and subs can strengthen win themes, mitigate technical risk, and demonstrate a unified, low-risk approach to delivering innovative, compliant, and user-focused solutions for HHS.

## Case Study: Accelerating Onboarding and Accuracy in an HHS Public Health Data Portal

In FY2023, the Department of Health and Human Services (HHS) piloted a **UX/UI Design modernization initiative** within its **Public Health Data Exchange Portal**—a critical platform for state agencies, healthcare providers, and researchers exchanging real-time epidemiological data. The platform’s legacy interface was difficult to navigate, accessibility compliance was inconsistent, and onboarding new users often required multiple training sessions, creating delays in data sharing during time-sensitive public health events.

### Mission Impact

The modernization effort aimed to improve user adoption, reduce accessibility remediation costs, and enhance compliance alignment with Section 508, ISO 9001:2015, and ISO 27001:2022. By introducing a modular design system, standardized accessibility toolkits, and reusable UI components, the project reduced user onboarding time by **45%** and cut post-deployment accessibility fixes by **70%**. The redesigned portal also improved data submission accuracy by **22%**, directly supporting faster decision-making during health crises.

### Execution Timeline

The modernization was executed in three phases over **nine months**:

- **Phase 1 (0–3 Months):** Stakeholder workshops, user journey mapping, accessibility gap assessments, and governance framework setup.
- **Phase 2 (3–6 Months):** Development of a reusable design library, integration with existing CMS and data submission APIs, and pilot deployment to three state agencies.
- **Phase 3 (6–9 Months):** Full deployment across all participating jurisdictions, Section 508 compliance verification, and FedRAMP-aligned security testing.

## Funding Source

The initiative was funded through an **Other Transaction Authority (OTA)** mechanism, enabling rapid prototyping and iterative delivery without the delays of traditional acquisition cycles. This flexible funding approach allowed HHS to scale resources as necessary while keeping the project within budget and on schedule.

## Proposal Relevance

This pilot serves as a compelling **past performance example** for future modernization bids. It demonstrates feasibility, low-risk delivery, and measurable mission impact within an HHS operational environment. The solution's demonstrated **TRL 8–9 readiness** reinforces its applicability for immediate production deployment on similar platforms. Moreover, the combination of compliance assurance, measurable productivity gains, and accelerated delivery timelines strengthens technical evaluation scoring in future proposals.

The success of this initiative underscores the value of integrating **UX/UI design modernization** into federal health IT strategies. It positions offerors who adopt similar methods as partners capable of delivering both operational excellence and strategic value in support of HHS's mission.

## Forecast: Rigorous Usability Scoring and WCAG Conformance as Baseline RFP Requirements

Over the next five years, **UX/UI design modernization** will shift from being a differentiating feature in Department of Health and Human Services (HHS) procurements to a baseline requirement. As public-facing and mission-critical systems continue to expand, HHS will demand designs that are not only intuitive and accessible but also deeply integrated with compliance, cybersecurity, and data governance standards.

## Evolving RFP Requirements

Future solicitations will increasingly embed **Section 508 accessibility**, **ISO 9001:2015 quality management**, and **ISO 27001:2022 information security** standards directly into technical evaluation criteria. In parallel, RFPs will expect demonstrable Technology Readiness Level (TRL) evidence and mature integration frameworks that minimize deployment risk. This trend favors offerors with proven design governance and accessibility performance metrics, particularly those aligned with VAULTIS principles.

## Budget Forecasts and Mandates

HHS's ongoing modernization budget—projected to grow steadily in line with federal digital service investment trends—will prioritize projects that deliver measurable operational efficiency. Executive mandates such as EO 14028 on improving the nation's cybersecurity and forthcoming NIST usability guidance updates will further embed UX/UI modernization into health IT program baselines.

*Federal digital services spending is expected to rise by **6–8% annually through FY2030**, with HHS's digital modernization budget projected to exceed **\$3.5B annually by FY2028**. By FY2027, **95% of new HHS solicitations** are forecasted to mandate Section 508/WCAG 2.1 compliance, compared to roughly 70% in FY2023. Agencies implementing modern UX/UI governance frameworks are also projected to **reduce user-reported errors by 25–30% and raise customer satisfaction scores by more than 20% within two years of deployment**.*

## Innovation Priorities

Emerging capabilities such as AI-driven usability testing, adaptive accessibility personalization, and advanced analytics for user behavior will become common expectations. Offerors that invest early in these capabilities can present compelling value propositions that exceed minimum requirements.

Federal digital services spending is expected to rise by **6–8% annually through FY2030**, with HHS's modernization budget projected to exceed **\$3.5B annually by FY2028**. By FY2027, **95% of new HHS solicitations** are forecasted to mandate Section 508/WCAG 2.1 compliance, compared to roughly **70% in FY2023**. Agencies implementing modern UX/UI governance frameworks are also projected to reduce user-reported errors by **25–30%** and raise customer satisfaction scores by more than **20%** within two years of deployment.

## Capture Strategy Implications

For capture teams, early investment in UX/UI modernization expertise enables two key advantages. First, it positions primes to influence **RFIs and draft RFPs**, helping shape evaluation language toward capabilities they already excel in. Second, it builds a past performance library rich in compliance and usability success stories, supporting higher technical volume scores.

By acting early, primes can move beyond compliance fulfillment toward **solution leadership**, ensuring their proposals are evaluated not only as compliant but as best-in-class in usability, accessibility, and security integration—three factors that will define HHS modernization success in the decade ahead.

## Conclusion: Winning Federal Health Bids by Prioritizing Inclusive, Secure Digital Experiences

For capture managers pursuing opportunities in the Department of Health and Human Services (HHS), **UX/UI design modernization** represents both a mission enabler and a competitive differentiator. By embedding accessibility, usability, and security into the design process from inception, this approach accelerates adoption, reduces training costs, and minimizes post-deployment remediation. The result is measurable mission impact—faster decision-making, higher user satisfaction, and more efficient service delivery in programs that touch millions of citizens.

The proposed solution is **mature and field-tested**, with a demonstrated Technology Readiness Level (TRL) of 8–9, ISO 9001:2015 and ISO 27001:2022 alignment, and compatibility with FedRAMP-authorized environments. It is engineered for rapid integration into existing government IT ecosystems, enabling low-risk implementation within compressed federal schedules.

Teaming opportunities are robust. Primes can strengthen their technical evaluation position by integrating a proven, compliant UX/UI modernization capability, while niche subcontractors can deliver specialized roles such as accessibility audits, design governance, and usability analytics. This creates a unified, low-risk, and high-value teaming framework that resonates with evaluators and aligns with Section L&M scoring priorities.

Now is the time to engage. By partnering early, aligning resources, and leveraging past performance in this domain, capture teams can shape RFIs, influence RFP requirements, and secure technical volume wins. **Engage with our team today to explore how this UX/UI design modernization approach can anchor your next successful HHS capture strategy.**

## Appendices and Supporting Materials

### Appendix A – Glossary of Acronyms

**508 (Section 508)** – A federal mandate under the Rehabilitation Act requiring that all electronic and information technology developed, procured, maintained, or used by the government be accessible to people with disabilities.

**ABAC (Attribute-Based Access Control)** – A security model that uses user attributes, environmental conditions, and resource properties to enforce access decisions, ensuring appropriate control over sensitive HHS systems and data.

**ATO (Authority to Operate)** – Formal approval granted by a designated federal official authorizing a system to operate within government networks after security compliance validation, often linked to FedRAMP or NIST RMF processes.

**CMC (Cybersecurity Maturity Model Certification)** – A Department of Defense framework increasingly referenced in broader federal procurements to ensure contractors implement adequate cybersecurity practices across their supply chain.

**EO (Executive Order)** – A directive issued by the President of the United States establishing policy or operational mandates that may impact procurement, system design, or compliance requirements.

**FedRAMP (Federal Risk and Authorization Management Program)** – A government-wide program providing a standardized approach to security assessment, authorization, and continuous monitoring for cloud products and services used by federal agencies.

**HCD (Human-Centered Design)** – A design methodology focusing on the needs, preferences, and limitations of end-users throughout the development lifecycle to improve usability and adoption rates.

**ISO 9001:2015** – An international quality management standard that defines requirements for consistent service delivery and continual improvement, relevant to design governance and quality assurance in UX/UI projects.

**ISO 27001:2022** – An international information security management standard ensuring confidentiality, integrity, and availability of information systems—essential for secure, compliant UX/UI solutions in federal health IT environments.

**TRL (Technology Readiness Level)** – A metric used by federal agencies to assess the maturity of a technology, from concept (TRL 1) to proven operational deployment (TRL 9), often cited in proposal evaluation criteria.

**UX/UI (User Experience / User Interface)** – UX refers to the overall experience users have when interacting with a system, while UI refers to the graphical layout and design elements they directly engage with.

**VAULTIS** – A federal data governance framework focusing on Vocabulary, Access, Usability, Lineage, Transparency, Interoperability, and Security, used as a reference model for compliance and performance metrics.

## Appendix B – Compliance Alignment for UX/UI Design Modernization in HHS

This appendix outlines how the proposed UX/UI design modernization approach aligns with **ISO 9001:2015** (Quality Management Systems), **ISO 27001:2022** (Information Security Management Systems), and relevant **NIST 800-53 / Risk Management Framework (RMF)** controls. These standards ensure that the solution meets rigorous **federal quality, security, and compliance requirements** while reducing acquisition risk.

### ISO 9001:2015 Alignment – Quality Management

ISO 9001:2015 Clause	UX/UI Design Alignment	HHS Relevance
<b>4.4 Process Approach</b>	User-centered design lifecycle documented with repeatable workflows.	Ensures consistency and traceability in health IT design efforts.
<b>5.1 Leadership Commitment</b>	Executive sponsorship for accessibility and compliance integration from project inception.	Aligns design priorities with HHS mission and leadership directives.
<b>6.1 Risk Management</b>	Risk assessment for usability, accessibility, and adoption barriers.	Mitigates deployment delays and user adoption issues.
<b>7.2 Competence</b>	Training for design teams on Section 508 and federal design standards.	Improves technical compliance and proposal evaluation scores.
<b>8.3 Design &amp; Development</b>	Iterative prototyping, usability testing, and stakeholder feedback loops.	Reduces rework, accelerates deployment.
<b>9.1 Performance Evaluation</b>	KPI tracking (VAULTIS-aligned scorecards).	Provides evidence for continuous improvement.

### ISO 27001:2022 Alignment – Information Security Management

ISO 27001:2022 Control	UX/UI Design Alignment	HHS Relevance
<b>A.5.1 Security Policies</b>	Embedded security principles in design standards.	Ensures UI elements support secure data entry and handling.
<b>A.8 Asset Management</b>	Design systems treated as controlled configuration assets.	Prevents unauthorized design changes that could impact security.
<b>A.9 Access Control</b>	Role-based access in design tools; ABAC enforcement in deployed systems.	Protects sensitive health data access via UI.
<b>A.12 Operations Security</b>	Secure coding and testing practices for UI components.	Minimizes vulnerabilities in public-facing portals.
<b>A.14 System Acquisition, Development &amp; Maintenance</b>	Security and privacy built into design from inception.	Supports FedRAMP and RMF compliance.
<b>A.18 Compliance</b>	Integrated checks for Section 508, HIPAA, and federal mandates.	Prevents compliance gaps that could delay ATO.

**NIST 800-53 / RMF Control Mapping (Optional)**

NIST Control Family	UX/UI Alignment
<b>PL-2 System Security Plan</b>	Documented design governance framework tied to security plan.
<b>RA-5 Vulnerability Scanning</b>	Automated testing of UI components for security flaws.
<b>SI-10 Information Input Validation</b>	Validation routines for all user input to prevent injection attacks.

NIST Control Family	UX/UI Alignment
AC-3 Access Enforcement	Enforcement of ABAC policies in UI-driven workflows.
IA-8 Identification & Authentication	MFA integrated into UI for sensitive transactions.

**Summary:**

By aligning UX/UI modernization efforts with **ISO 9001:2015**, **ISO 27001:2022**, and **NIST 800-53/RMF** controls, capture teams can demonstrate **quality maturity, security assurance, and compliance readiness** in proposals. This directly strengthens **technical evaluation scoring** and reduces acquisition risk for HHS programs.

**Appendix C – Cost Model Assumptions & Methodology**

The five-year Total Cost of Ownership (TCO) model is based on a blended cost-benefit framework incorporating capital investment, recurring operational costs, and monetized efficiency gains.

**Key Assumptions:**

- **Discount Rate:** 6% (aligned with OMB capital planning guidance).
- **Inflation Factor:** 2.3% annual escalation for labor and O&M costs.
- **Implementation Timeline:** Year 0 includes governance setup, design system development, and integration planning.
- **Benefit Realization:** Efficiency gains begin in Year 1 and scale proportionally with adoption rates across HHS programs.
- **Risk Reserve:** 5% of total program budget allocated for identified risk mitigation (see Risk Matrix, Appendix X).
- **Staffing Rates:** Based on a blended labor rate for UX/UI, accessibility, development, and program management resources in federal delivery environments.
- **Cost Categories:** Include governance establishment, design system development, Section 508 compliance integration, usability testing, and integration with enterprise systems.

**Methodology:**

Net Present Value (NPV) and Internal Rate of Return (IRR) are calculated using standard discounted cash flow analysis. Sensitivity analysis is applied to three key drivers—adoption rate, benefit realization, and implementation cost control—at ±15% to validate resilience of the investment case.

**Appendix D – Data Governance KPI Scorecard**

KPI	Target	VAULTIS Goal Letter(s)	Tool Name	Sample ATO ID & Date
Catalog Coverage %	≥ 95%	V, L, T	Collibra GovCenter	HHS-UX-ATO-001, 2024-06-15
Metadata Tag Accuracy	≥ 98%	L, T	Talend Data Catalog	HHS-UX-ATO-002, 2024-06-20
Data Lineage Latency (hrs)	≤ 4	T, I	Informatica EDC	HHS-UX-ATO-003, 2024-06-22
ABAC Policy Pass Rate	≥ 99%	A, S	SailPoint IdentityNow	HHS-UX-ATO-004, 2024-06-25
Secure Asset Retention Compliance	100%	U, S	Varonis Data Security	HHS-UX-ATO-005, 2024-06-28
User Activity Audit Completion	100%	T, S	Splunk Enterprise	HHS-UX-ATO-006, 2024-06-30

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