MEDSIS Modernization

State of Arizona – Health Services

Project Investment Justification (PIJ)

September 20, 2023

ARIZONA DEPARTMENT OF HEALTH SERVICES

Agency Vision
Health and Wellness for all Arizonans.

Agency Mission
To promote, protect, and improve the health and wellness
of Individuals and communities in Arizona.

Team Introduction

Roles Present at ITAC

- Susan Robinson - Chief Business Intelligence Officer

- Theresa Carter - Sr. IT Project Manager

- Laura Erhart - Informatics Section Lead, Business Intelligence Office

Project Introduction

Stated Operational/Business Issue

The current MEDSIS solution went into production in 2006, and was modified over the years to adapt to Arizona's changing needs in disease surveillance and intelligence. The evolution over time has created the following challenges:

- Need for improved performance and scalability to meet current and future data needs
- Challenging user experience in portions of the application
- Meeting the needs of an expansive user base with complex and competing priorities
- Aligning with the AZDHS Strategic Map Initiative to Improve Public Health Infrastructure

Benefit to the State Agency and Constituents

MEDSIS will provide quick, user-friendly, flexible, secure, compliant, and stable methods to work with disease surveillance data and collaborate with partners to improve public health.

Collaborating partners span from ADHS programs to local public health jurisdictions, to tribal communities, hospital systems, and laboratories. This ecosystem of partners is involved in gathering, accessing, analyzing, and sharing data. MEDSIS is the platform for collaboration in supporting Health and Wellness for all Arizonans.

The vision is to repurpose MEDSIS to align with the Agency priority to analyze and share data with public health partners in a meaningful and expedited manner and strengthen the resilience of critical public health systems. Actionable data aids in early warning detection, rapid response, outbreak management and establishment of trends in morbidity and mortality.

Proposed Solution

Overview of Proposed Solution

The objective is to enhance the MEDSIS web-based application by applying a service oriented approach and implementing modern cloud and application architecture patterns to support high availability, scalability, and resiliency.

Additionally, the plan is to introduce a modern, intuitive user interface to provide an enhanced user experience. The technology stack includes Microsoft .NET Core 7.0 (or its latest version), Bootstrap 5.0, React, Docker containers, and Microsoft SQL Server.

Proposed Solution

Due Diligence and Method of Procurement

1) Reviewed the possibility of using the existing Salesforce platform, but we didn't have the funding identified for sustaining the license.
2) Considered staff augmentation, which might have been a lower cost. Determined that this option would have been more difficult to manage and would introduce more risk.
3) Submitted a Task Order for State approved .net professional services vendors (sent to 6 vendors, received 2 bids). Selected Slalom via Carahsoft vendor.
4) Maven software was evaluated and did not provide the functionality needed.
5) EpiTrax software was evaluated and did not provide the functionality needed.

Technology

The application will be hosted in the Amazon Web Service (AWS) Cloud public environment US West 2 Oregon Region. The architecture will consume managed resources such as AWS Relational Database Service (RDS) for SQL Server, AWS DocumentDB, and AWS ElastiCache for Redis. The cloud architecture will use serverless computing for container-based architecture to allow for greater flexibility and scalability including: Docker for containers, AWS Elastic Kubernetes Service (EKS) for container orchestration, AWS Fargate for serverless computing, and AWS Elastic Container Registry (ECR) for storing, sharing, and deploying container application images.

Project Responsibilities

Identify Proposed Solutions Responsibilities

Agency

1. UAT Support - Test Case Creation
2. User Interface Design
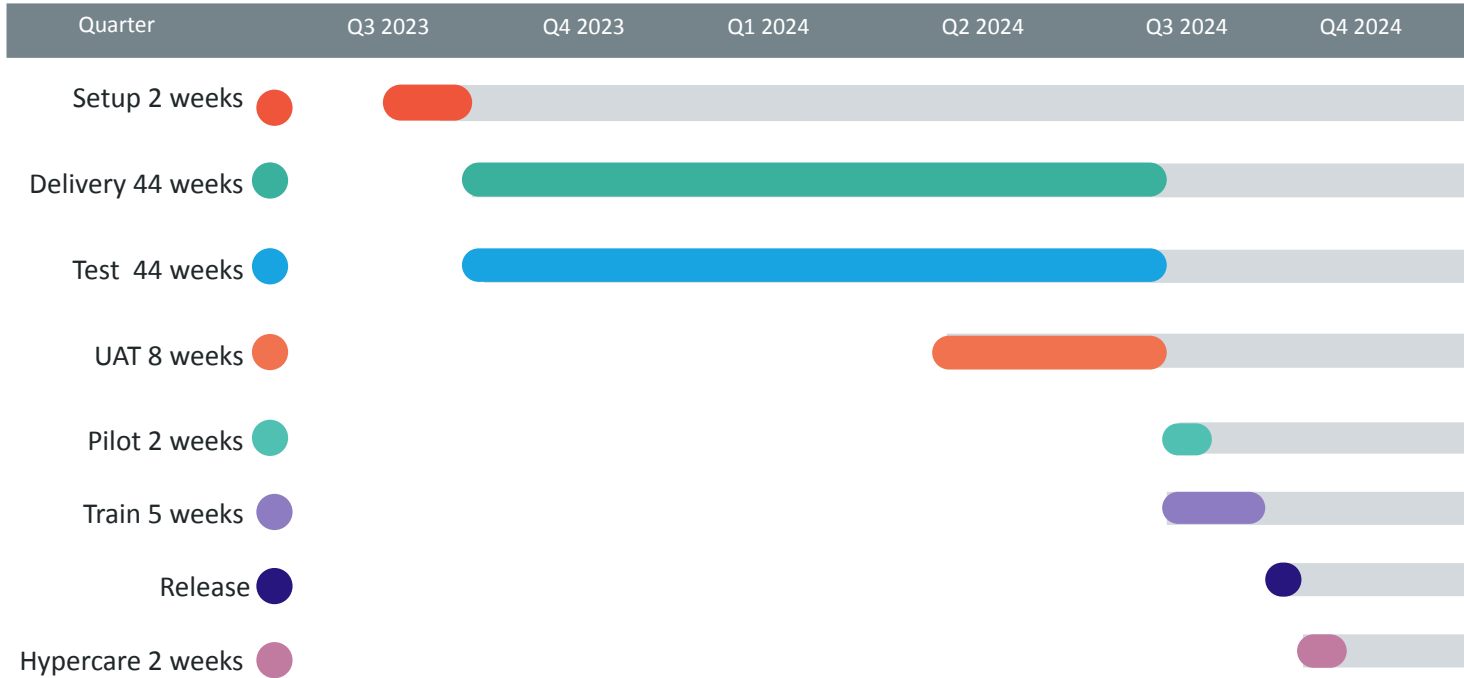3. ADA Compliance Designer (when necessary)
4. Information Security

Shared

1. Requirements Sign Off
2. User Acceptance Testing
3. Project Management

Vendor/Contractor

1. Discovery/needs assessment
2. Sprint planning and execution
3. Requirements gathering
4. System Development
5. Quality Assurance
6. Deployment
7. Change Management
8. Training

Project Timeline

Quarter	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024
Setup 2 weeks						
Delivery 44 weeks						
Test 44 weeks						
UAT 8 weeks						
Pilot 2 weeks						
Train 5 weeks						
Release						
Hypercare 2 weeks						

Project Costs

Project Costs by Category	FY24	FY25	FY26	FY27	FY28	Total
Professional & Outside Services (Contractors)	$4,581,458	-	-	-	-	$4,581,548
Hardware	-	-	-	-	-	-
Software	$32,010	-	-	-	-	$32,010
Communications	-	-	-	-	-	-
Facilities	-	-	-	-	-	-
License & Maintenance Fees	$99,395	$99,395	$99,395	$99,395	$99,395	$496,975
Other Operational Expenditures	-	-	-	-	-	-
Total Development	$4,581,458	-	-	-	-	$4,581,548
Total Operational	$131,405	$99,395	$99,395	$99,395	$99,395	$528,985

ARIZONA
DEPARTMENT OF ADMINISTRATION
TECHNOLOGY

Measures of Success

a. This project will result in numerous strategic, tactical and operational successes for ADHS. The goal of the MEDSIS Modernization project is to provide quick, user-friendly, flexible, secure, compliant, and stable ways to work with data and collaborate with partners in order to improve public health.

b. New version of the MEDSIS application is available by September 30, 2024 and meets Web Content Accessibility Guidelines (WCAG) 2.1 requirements.

c. Feature requirements for onboarding new programs covered through configuration (as defined in program onboarding documentation), will increase from 20% to 75%.

d. Maintain MEDSIS application 99.999% availability (excluding scheduled downtime).

Q & A
Session