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Knowledge Services MSP
State of Mississippi

MS Dams Statement of Work

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September 03, 2025

Submitted to:
Mississippi Department of Environmental Quality (MDEQ)

Submitted By:
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Table of Content

Summary

Embedded in this Statement of Work (SOW) is Flairsoft's proposal to the Mississippi Department of Environmental Quality (MDEQ) for modernizing its Dam Safety Application (MS Dams).

The project aims to replace an outdated MS Access system with a new web-based platform to manage dam safety data, integrate with GIS, and facilitate reporting to federal agencies like USACE and FEMA.

The SOW outlines the project requirements, Flairsoft's proposed development methodology across seven milestones, including database backend, API, and user interface development, and staffing details for the Flairsoft team, including project management, development, and database administration roles.

The documents also provide cost estimation strategies based on API complexity and a project timeline.

Project Overview (What Are We Building?)

The Mississippi Department of Environmental Quality (MDEQ) requires a modern, web-based system to manage all data related to Dam Safety in the state. The system should replace the outdated MS Access application currently used.
This new system will be built using reliable, modern technology and will:

- Be easy to use by MDEQ staff
- Allow for secure data entry, search, and reporting
- Store important files and maps (GIS)
- Automatically generate letters, notices, and reports Meet federal guidelines from FEMA and USACE
- We will follow a step-by-step development approach, making sure each feature is built correctly, tested, and approved before moving to the next phase.

These details need to be confirmed during project startup:

- Access to existing MS Access databases, including AS-IS and TO-BE documentation, and schemas for the current SQL Server will be provided.
- MDEQ will supply developer credentials, documentation, and preferred API or layer structure guidelines for ESRI GIS integration.
- The application will be integrated with Azure Active Directory for single sign-on, and Flairsoft credentials will be provided for CORE team members to access SharePoint site.
- MDEQ SharePoint will be used for documents and photo uploads. Access to current state output reports, deliverables, and templates will be provided and acceptance of PDF input files, with business rule edits for data elements, is in scope.
- Original Access data will be cleaned, or significant QA/QC will be planned, and historical datasets will be archived.
- Virtual demos will be conducted, for the Pilot event.
- Training on Axosoft for three individuals will be scheduled, covering issue tracking and change management, and a copy of MDEQ’s change management procedures will be provided before development begins.

Background

With this SOW, the Mississippi Department of Environmental Quality (MDEQ) has contracted Flairsoft to design, develop, and deploy a modern web-based MS Dams application with a SQL Server backend.

The new application will provide a scalable, maintainable, and secure platform for managing dam safety data, **integrating with ESRI GIS services,** supporting document management, and facilitating required federal reporting.

MS Dams is MDEQ's custom application designed to collect and store data pertaining to dams in the state of MS, as well as transmit this data to the United States Army Corps of Engineers (USACE) National Inventory of Dams (NID) and the Federal Emergency Management Agency (FEMA) Dam Safety program.

The ***current*** **MS Dams system** is located with the MDEQ Office of Land and Water (**OLWR**). The MS Dams system is mission critical and used by internal OLWR staff to determine and enforce the regulatory requirements of each dam and dam owner. Portions of the data and data format are mandated and required by USACE and FEMA guidelines and are closely tied to grant funding of MDEQ's programs.

Historically, the MS Dams application was built in Microsoft Access, using forms and VBA code to collect and store the data within Access. The application was originally created by MDEQ Dam Safety staff who were engineers by trade with no formal computer science background.

In 2021, MDEQ OIT staff assisted Dam Safety in rewriting the backend of the application in MS SQL Server to fix several bugs and stability issues. A modified version of the Microsoft Access frontend remained the main method of interacting with the database.

The MS Dams application currently stores **a variety of data** that is critical to the function of the MDEQ Dam Safety Division, including the following:

- Official inventory number and hazard classification of all dams in MS
- Physical characteristics of each dam and its associated watershed
- Dam Ownership and contact information
- Dam inspections
- Dam construction and repair applications
- Dam incidents and failures within the state

The MS Dams application also provides some simplified query/search and report generating features that assist Dam Safety with its reporting requirements to USACE and FEMA.

The current application is **lacking in several areas** that have led to problems for the Dam Safety Division:

1. Backend database tables are not well normalized, leading to a duplication in some data and an inability to easily execute required queries.
2. MS Access frontend was developed in a manner that left it not easily maintainable or upgradable by MDEQ OIT staff. **Intermittent bugs are unable to be repaired.**
3. Neither the front end nor the backend implements **proper data validation**, leading to storage of bad/poorly formatted data.
4. Data fields in the application do not match those collected via paper forms (inspections, applications, etc.), leading to the need to summarize and manually enter data from these forms.
5. Reporting and automation features do not fully match those needed by the division, leading to excess manual querying to complete required tasks.
6. Inability to store and serve GIS data has led to unnecessary duplication of some data in the MDEQ ESRI GIS ecosystem.
7. Inability to store and serve documents and photos has led to a proliferation of difficult-to-organize files and folders on the Dam Safety network storage drive.

Objectives- Scope of Work & Deliverables

To properly build the MS Dams application in accordance with the desired milestone deliverables, Flairsoft will To properly build the MS Dams application in accordance with the desired milestone deliverables, Flairsoft will provide resources with experience in the following areas:
MS SQL Server
Database administration
Data query
Data mapping
.Net platform (vb.net and c#.net), JavaScript, Visual Studio, Visual Basic, MySQL, Oracle, and Microsoft SQL databases.
SSRS Report
Troubleshooting and user support on the above platforms

MDEQ requires programming in support of user needs to build and release the entire MS Dams application. Each release must be versioned and submitted to the MDEQ source code repository in GitHub.

Flairsoft will build and test the functionality of each new version as specified in the Milestones. Flairsoft will include documentation of the system functionality and show each version is fully integrated with all functions created in each milestone. Flairsoft will provide a detailed report describing the activities performed and the functionality created and upload this report to MDEQ staff for MDEQ review and approval.

As new functionality is added, user training and coordinated testing with users is required. As the milestones are progressing, Flairsoft will ensure that newly coded modules execute successfully and integrate with the implemented modules. Flairsoft will provide staff knowledgeable in developing code in the .Net platform using C#, .net, JavaScript, and/or Visual Studio. Flairsoft will dedicate specific resources to this project who remain the same throughout the project, unless prior approval is received from the MDEQ to replace the resource. The resources provided by Flairsoft must possess acceptable verbal and written communication skills.

The Flairsoft developers will work closely with Subject Matter Experts (SMEs) to completely understand the functionality that is being replaced from legacy systems. Our proposed team have excellent documentation and knowledge-transfer skills.

Flairsoft can retain the same resources who were proposed in our initial proposal to MDEQ. These resources are very experienced and possess require credentials for the management of the project. We are proposing a team of Sr .NET/GIS developers, Sr DBA and a Project Manager. Resumes of the staff assigned to this project are provided as Appendix B. In addition to this team, the .NET Architect and GIS Architect will be used on a part-time basis as per the need. These resources are currently working on our internal product projects, and we have the ability to utilize them as per the needs of the project.

The MDEQ issue tracking database will be utilized by Flairsoft. Any ticket that is listed, Flairsoft will provide (within two business days) the level of effort to complete the ticket as well as the date of completion. Completion is required of all Axosoft tickets that are in Reported, Verified, Being Fixed, Ready for Testing, Fixed, & Rejected status.
Flairsoft will create reports deemed necessary due to new functionality or as identified during development.

Flairsoft will use MDEQ's Change Management procedures for implementing changes that will impact on the application (a copy of the MDEQ's Change Management procedures will be provided by MDEQ).

For the MS-DAMS project, status reporting is crucial for effective project management, providing stakeholders with essential project insights to drive decisions, actions, and awareness. Flairsoft's detailed methodology for providing project status reporting, including sample reports and for re-aligning the project when schedules are not being met will be as below:

Status reports offer a clear understanding of a project's current state, addressing performance issues and forecasting future costs and schedules. They are vital for timely, transparent communication regarding project status, potential risks, and emerging issues, fostering strong stakeholder engagement and mitigating misunderstandings. Project Managers dedicate a significant portion of their time (approximately 90%) to communication, emphasizing the importance of effective reporting.

A comprehensive project status report generally includes:

Overall Project Status: A quick "traffic light" overview (Green, Yellow, Red) with a brief summary.

Key Activities Completed (Past Period): Major accomplishments, especially foundational steps for a new Project Manager, such as onboarding, stakeholder engagement, understanding the project landscape, communication setup, and initial prioritization.

Planned Activities (Next Period): Key tasks and priorities for the upcoming period, aligned with short-term goals.

Scope, Timeline, and Budget Status: Updates on scope definition, timeline feasibility, and adherence to the budget, including any potential overruns.

Risk and Issue Management: Identified risks, their status, emerging issues, and mitigation strategies.

Stakeholder Engagement Update: Progress on stakeholder interactions and relationship status, highlighting expectation setting and areas needing more engagement.

Communication Status: Report on established communication channels, progress on the communication plan, and successes or challenges in ensuring timely communication.

Work performance reports can be presented in various formats like dashboards, heat reports, or stoplight charts, containing details such as earned value graphs and trend lines. Information should be adapted to the appropriate level and format for each stakeholder type. Reports can be regular or ad-hoc and include presentations, blogs, and other communications. For agile projects, burnup charts track progress and scope changes.

Integration with Project Management Processes

Status reports are an output of the "Monitor and Control Project Work" process and a key input for the "Manage Communications" process, ensuring timely distribution to stakeholders. They also help monitor and control schedules, particularly for contracted work

The Flairsoft Project Manager will provide weekly written Progress Reports every Monday COB. The Progress Reports will cover all work performed and completed during the week for which the Progress Report is provided and shall present the work to be performed during the subsequent week) The Progress Report will identify any problems encountered or still outstanding with an explanation of the cause and resolution of the problem or how the problem will be resolved to protect any risk which can affect Performance Expectations (SLA).

The Project Manager will be responsible for conducting weekly status meetings with the Agency Project Manager. The meetings will be held on Tuesday at the time and place designated by the Agency Project Manager, depending on schedule and availability, the meetings can be in person or over the phone at the discretion of the Agency Project Manager. On a monthly basis, the Project Manager will provide a written report to the Agency, due no later than the tenth (10th) day of the following month.

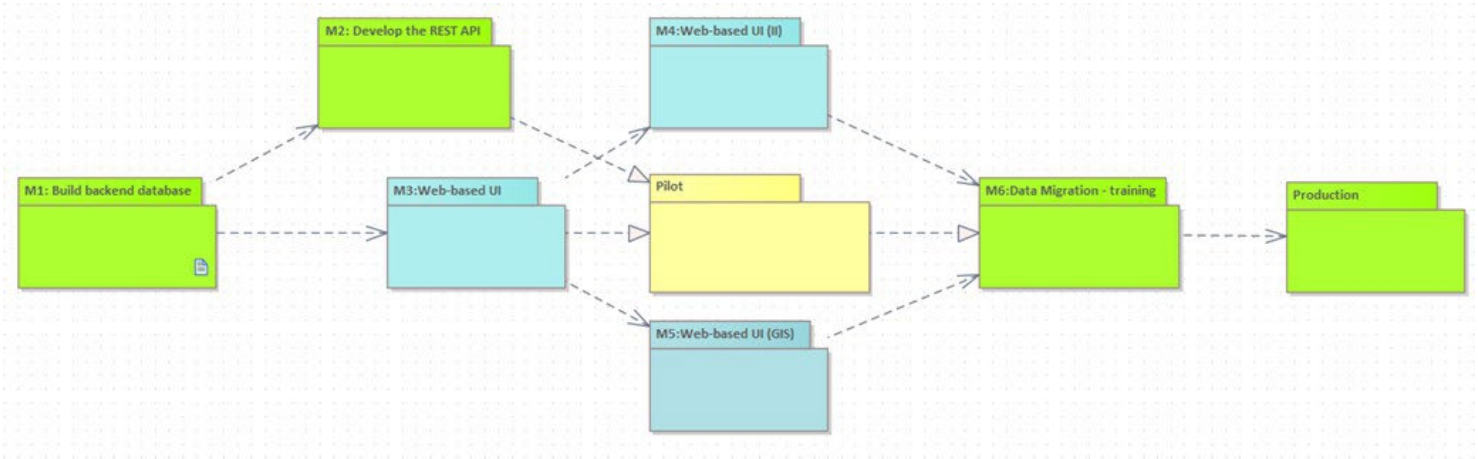
Establishing clear communication and reporting structures is paramount to ensure everyone is informed and aligned. This will also help to realign the project when schedules are not being met by communicating a mitigation plan to the stakeholders.

Another approach to bring the project back on schedule to add more resources. Flairsoft has its application development center at Columbus Ohio for our IP product development. Our product Flairdocs uses similar

technologies (.NET, ESRI/GIS. SQL) and we have back up resources to support in such situations. However, if the project is not on schedule is caused due to reasons not in control of Flairsoft, we will use MDEQ's Change Management procedures to bring back up resources to realign the project schedule.

Scope – Milestone Approach

For Flairsoft deliverables, the view includes WBS / Waterfall driven efforts based on discussions of the required systems work described in the RFP.



Deliverables

Project deliverables will be aligned with state standards and will include the following artifacts plus others as determined by Flairsoft and State project managers.

- Project Plan / Schedule
- Test plan / results
- Project work-product documentation:

  D: Client SOW

  D: Project Plan

  D: Stakeholders Identified Report

  D: Source Systems Inventory

  D: Source System Data Analysis Report

  D: Functional Requirements Document

  D: Non-Functional Requirements Document

  D: Technical Requirements Document

D: Joint Application Design (JAD) Summary - Review EVENT

D: System Architecture Document

D: Gap Analysis Report

D: Logical & Physical Data Models

D: Interface Specification Document

D: Application Design Specification

D: REST API and UI Components Delivery

D: Leadership Briefings (Final Approval)

D: Training Materials

D: Project Closure Report

Deliverable acceptance will be subject to a 10-calender day's review schedule, as agreed with the State.

Scope – Revision Notes

Thank you for sharing the detailed schema document. Flairsoft has analyzed all information and was able to sharpen our estimates to fit in with your budget

V2.0 and V1.2 Sheets: These outline the proposed/new schema with ~22-25 tables (e.g., Design under Applications; BreachAnalysis, Compliance, Condition, etc., under Dams; AuxiliarySpillway, Crest, etc., under Inspections). Comments include numerous renames (e.g., DueOn to DueDate), deletions/moves (e.g., leakage fields to a dedicated table), type changes (e.g., to Bit), and suggestions for better organization.

DAMS_OLWR Sheet: This maps the existing ~22-25 tables/entities from the current database (e.g., Applications, Dams, Inspections, Deficiencies, EAP, etc.) to the V2.0 schema, highlighting mismatches and temporary/query tables (e.g., tblInventoryQuery) that may be deprecated or archived.

Missing Fields to Add Sheet: Proposes ~30 new fields (e.g., Comments in BreachAnalysis, SubmissionType in EmergencyActionPlan) and 4 new tables (Notes, HazardClassification, Status, and a state inspections table under development).

This confirms the original assumption of ~22-25 tables/entities but adds complexity: normalization must incorporate renames/deletions/moves/new additions, and migration requires mapping old data to the refined schema (with potential data cleaning for deprecated fields). For the lower- budget focus, we have kept the scope streamlined (e.g., 12 core APIs/entities from key tables like Dam, Inspection, Owner, Spillway, etc.), limited to 5 -7 screens, and basic features. Estimations are slightly adjusted upward (~10% for added schema refinements) but remain cost-effective by deferring non-core items (e.g., full State inspections table unless prioritized).

If this analysis misses any specifics (e.g., due to truncations in the excerpt provided), please share the full Excel for further refinement. GIS integration remains deprioritized (as basic file storage) unless you confirm it's needed—per your earlier mention, it could add 30-40 hours for ESRI linking if reintroduced. The estimated optional cost is provided at the pricing table.

Scope components – streamlined and prioritized:

Based on the database snapshot (22 tables), we've prioritized essential features: database normalization, basic CRUD APIs (with limited filtering/searching/paging), 5 frontend screens, and data migration with minimal QA/QC. Time estimates are revised by streamlining tasks.

Advanced features (e.g., extensive GIS integration, workflow tracking, complex reporting) are simplified.

This segregation provides modularity, potentially allowing the option of normalization and migration to be scheduled independently. The total hours are revised due to streamlined scopes.

Development Approach – streamlined and priortized:

Development will follow a phased approach with validation at each step. The database snapshot (22 tables) will be normalized to support core requirements, with non-essential entities deferred.

General Clarifications (Adjusted):

Access to Existing Data: Assume snapshot provides sufficient schema; full database access needed for migration.

GIS Integration with ESRI: Limited to basic file storage unless expanded; credentials/documentation optional.

User Authentication & Roles: Azure AD SSO assumed; provide basic roles/permissions.

Document & Photo Uploads: Basic uploads; file size/volume to be confirmed.

Reporting Requirements: Simple templates; no digital signatures unless required.

External Form Submissions: Basic PDFs; no public submission.

Data Migration: Focus on core data with light QA/QC.

On-site Meetings: Flairsoft teams providing virtual support

Issue Tracking in Axosoft: MDEQ tickets; training assumed available.

Change Management Process: Request copy before start.

Milestone/Deliverable Pricing Model

The Project will follow a **Fixed Bid** delivery model, i.e. time-bound delivery under a proposed budget. The invoice will be according to the milestone delivery. The Flairsoft team will assess the finer scope and requirements including any complexities and their focus delivering on a robust architecture, compliant infrastructure and security design and develop the deliverables.

The cost estimates are based on project model and assurance of the dedicated resources and SMEs in the domain and technology for the period of the project delivery. The cost estimate presume that minimal time is required from MDEQ SMEs, and their time will be leveraged on pre-defined slots according to the project plan developed by our experienced Project Manager.

Project Name: EAS / Dam Safety Web Application	**Posting ID#: 149349**
State Agency: Mississippi Department of Environmental Quality	**Vendor Name:** Next Step Innovation
Estimated Start Date: 10/6/2025	**Estimated Completion Date:** 04/30/26

Milestone/Deliverable	Cost
Milestone/Deliverable 1: *01 - Build Database Backend in MS SQL Server* • Normalize and clean existing database • Add necessary tables/fields to match existing forms/submittals and meet MDEQ, FEMA, and USACE requirements Integrate GIS data storage, possibly with existing ESRI infrastructure **Task:** • Take the existing SQL Server database and organize it properly to remove duplicate or unnecessary data. • Create new tables and fields so that the system can collect all information currently collected on paper forms or required by FEMA and USACE. • Ensure the database is structured in a way that supports clean, fast, and reliable queries. Prepare the database to link with GIS maps later on (ESRI system). ***Additional Note:*** *Normalize the existing database (22 tables from snapshot) to remove duplicates and align with core forms/submittals. Focus on essential tables (e.g., Dam, Owner, Inspection) and deferred complex relations. Structure for basic queries. (Segregated and revised from previous combined estimate by focusing solely on schema work.)*	**$44,738.00**

Milestone/Deliverable	Cost
Milestone/Deliverable 2: *02 - Build REST API for Interaction with Database* • Design and code API endpoints to perform CRUD (create, read, update, and delete) operations on database API should have the flexibility to perform complex queries and serve data to proposed web interface as well as any future applications **Task:** • Build a "middle layer" — these acts like a bridge between the database and the user interface (the screen users interact with). • This middle layer (API) allows any authorized software (such as your web app, or future mobile apps) to safely fetch, add, edit, or delete data. • We will make this flexible and future-proof, so it can support advanced data filters and reports later.	**$38,406.00**
Milestone/Deliverable 3: *03 - Design and Code web-based MS Dams User Interface (UI), Phase I* • Interface should be built using the latest .Net framework • Interface should be optimized to be easily accessible via mobile devices • User login managed by existing employee Microsoft accounts • Various roles assignable to users to manage read/write permissions All backend data should be accessible and editable through interface **Task:** • Design a modern and clean web interface using Microsoft technologies. • The system will work on desktops, laptops, and mobile phones. • Staff can log in using their existing Microsoft work accounts — no need to remember new passwords. • Assign permissions to users based on their role — for example, some can view only, others can edit or approve.	**$41,940.00**

Milestone/Deliverable	Cost
Milestone/Deliverable 4: *04 - Design and Code web-based MS Dams User Interface (UI), Phase II* • Default and custom saved queries that generate exportable tables • Default and custom saved reports that generate exportable PDFs • Default and custom saved letter/notice generator Customized home page based on login **Task:** • Add a query builder that lets users search data easily and save common searches. • Enable users to export data into Excel-style tables or printable PDFs. • Provide a way to generate letters or notices (such as deficiency notices) automatically using pre-filled templates. • Make the dashboard show relevant data based on who is logged in (e.g., recent inspections for inspectors, pending applications for admins). ***Additional Note:*** *Migrate core data from the current database to the new normalized structure, with basic QA/QC. Archive non-migrated data if needed*.	**$43,618.00**

Milestone/Deliverable	Cost
Milestone/Deliverable 5: *05 - Design and Code web-based MS Dams User Interface (UI), Phase III* • View and edit GIS data, possibly integrated with existing ESRI infrastructure • Workflow tracking system for internal tasks • Correspondence tracking system for external tasks • Inspection tracking system • Documents/photos storage though interface with tags Allow submission of digital PDF forms (inspections, applications, etc.) that upload directly to the system, including raw photos **Task:** • Enable users to view and update dam locations and GIS data directly on the map interface (integrated with ESRI system). • Create a workflow tracking system so users can manage tasks like inspections or repair approvals. • Add a correspondence log, where all communication with dam owners can be tracked and attached to their records. • L et users upload documents and photos directly through the interface and tag them for easier search. • Build a feature to submit inspection forms digitally — including uploading raw photos from field inspections. *Additional Notes:* • *We have estimated hours per API for 10 field average complexity for different modules* • *APIs with more than 10 fields, dynamic form logic, or attachments (documents/photos) may take additional time.* • *Simpler reference APIs (e.g., dropdown sources) may require fewer hours. However, APIs involving GIS integration, correspondence/workflow tracking, or reporting logic may also exceed this range.* • *We have estimated based on the information provided, however if there are changes, based on the actual situation, the estimates will be recalculated once form layouts and business rules are shared.* *Provide train-the-trainer sessions and documentation. Urgent fixes within 48 hours – per SLA. Use Axosoft for tracking.*	**$48,796.00**

Milestone/Deliverable	Cost
Milestone/Deliverable 6: *06 - Data Migration and Training* • Determine best methods to migrate existing data to new system • Create streamlined QA/QC processes for cleaning existing data before moving to new system Provide ability to store and access any legacy data that does not conform to new system **Task:** • Safely transfer all historical data from the current system to the new one. • Perform quality checks before and after migration to ensure accuracy and completeness. If some legacy data doesn't fit the new system, we'll archive it in a way that's still viewable. • Conduct training sessions (in-person or virtual) for your team and provide easy-to-follow documentation.	**$31,998.00**
Milestone/Deliverable 7: *07 - Ongoing Support* • Vendor will provide 120 days of post-implementation support Expedited support for critical bug fixes (within 48 hrs) • Provide urgent fixes within 48 hours if anything critical breaks. • Use Axosoft (your chosen system) to track and update the status of each reported issue.	**$0.00**
Total Project Costs:	**$249,496.00**
Optional - GIS integration – ESRI linking (Maximum 40 hours effort)	**$4,136.00**

Hours Breakdown phase wise

Milestones	DBA	.NET Dev	PM
M1 Build Database Backend in MS SQL Server	130	168	152
M2 Build REST API for Interaction with Database	110	144	132
M3 Design and Code web-based MS Dams User Interface (UI), Phase I	118	174	132
M4 Design and Code web-based MS Dams User Interface (UI), Phase II	124	174	142
M5 Design and Code web-based MS Dams User Interface (UI), Phase III- Build UX - Phase III (GIS support)	112	220	160
M6 Migrate data; QA/QC process; retain legacy data; user training	86	128	108

Assumptions

Flairsoft would develop assumptions based on the SOW and would request that the state agency examines those assumptions closely in order to ensure their validity and to confirm our mutual understanding of the project/SOW. Should the assumptions prove to be invalid, or should the agency require changes to our approach once it has been agreed upon, Flairsoft will follow standard change management procedures, including assessment of potential impacts to the project schedule and cost approved by agency.

General Assumptions:

1. We are presuming that MDEQ will provide VPN access to our team and will allow our team to use planning, tracking, and work management tools.
2. We are presuming that it is totally remote work, however if travel is required by MEDQ it will be reimbursed as per their travel policy.
3. Clear and Well-Defined Requirements: Flairsoft development team assumes that the client has provided clear, comprehensive, and unambiguous requirements for the software project. We assume that the requirements are complete and adequately represent the agency needs and expectations.
4. Timely and Effective Communication: Flairsoft team assumes that the agency will provide timely feedback and respond promptly to queries, clarifications, and requests for additional information. We also assume that the client will be available for regular meetings and discussions throughout the development process.
5. Domain Knowledge and Expertise: Flairsoft team assumes that the client possesses the necessary domain knowledge and expertise to make informed decisions and provide relevant input during the development process. We assume that the agency will be able to provide guidance and clarification on domain-specific requirements.
6. Project Scope and Changes: agency's requirements and scope will remain relatively stable throughout the project. We that any changes or modifications to the initial requirements will be communicated in a timely manner and can be accommodated within the project timeline and budget.
7. Testing and Quality Assurance: Flairsoft team assumes that the agency understands the importance of testing and quality assurance processes. We assume that the agency will actively participate in testing activities, provide feedback on issues and bugs, and collaborate to ensure the software meets the desired quality standards. MDEQ will provide all test and production environments.
8. Agency resources (Program Office and ITO), with the appropriate level of influence and control, will be supportive of the project and help to remove barriers that would prevent the project from being successful.
9. Task Order approval and signoff would be done within 5 business days of release.

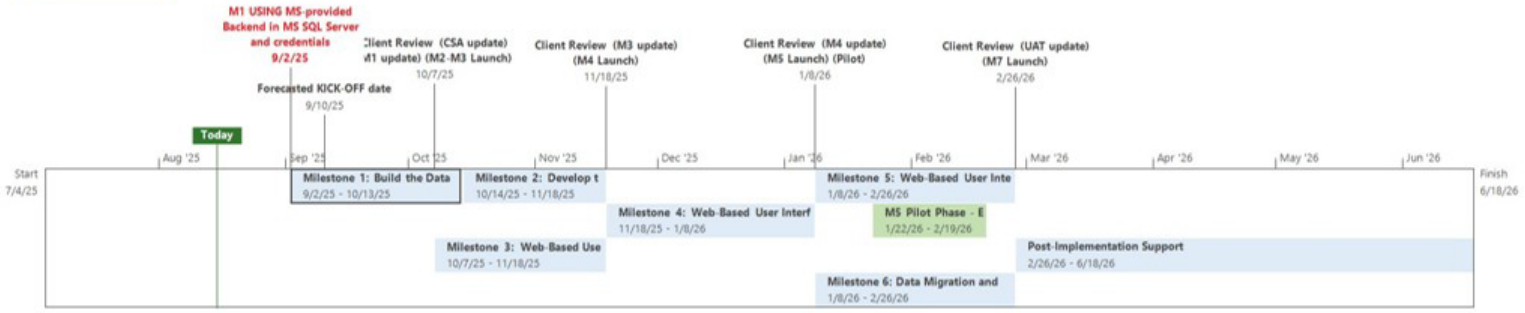
Out of Scope Assumptions:

1. If any changes occur post the deployment and acceptance, they will be handled by Change Management.
2. Any bug reported after the final release acceptance would be required to go through Change Management/Issue Management.
3. Access to Necessary Resources: Flairsoft team assumes that the client will provide access to any required resources, such as hardware, software licenses, databases, APIs, or third-party services necessary for the development and deployment of the software.
4. Licenses like Microsoft/SQL database/ESRI ArcGIS or any other software tools will be provided by agency. The agency will acquire the necessary licenses, if required.

Appendix A – Project Plan

The proposed project plan presumes the start date on 9/2/2025, any further delay will cause delay in completion and associated cost. The plan will be updated based on the actual start date.

MS-DAMS – Schedule – KEY Dates – @ 9-2 Start – updated 08 -15



MS-DAMS - 07-07-2025 - Updated 08-15	Start	Finish
MS-DAMS - 07-07-2025	7/15/25	6/18/26
Step 1a: Strawman Planning	9/1/25	6/18/26
Workplan - with interaction	9/1/25	6/18/26
Setup - Project Launch	9/1/25	9/5/25
Milestone 1: Build the Database Backend	9/2/25	10/13/25
Milestone 2: Develop the REST API (Middle Layer)	10/14/25	11/18/25
Milestone 3: Web-Based User Interface – Phase I	10/7/25	11/18/25
Milestone 4: Web-Based User Interface – Phase II	11/18/25	1/8/26
Milestone 5: Web-Based User Interface – Phase III	1/8/26	2/26/26
Milestone 6: Data Migration and Training (+ API-POC)	1/8/26	2/26/26

Appendix B – Team Resume

MICHAEL K RYAL

Role: Sr Project Manager

SUMMARY:

Mr. Ryal is a PMP-certified Project Manager who demonstrates exceptional skills in leading large-scale system implementations across diverse sectors, including government, insurance, and healthcare. His proven ability to effectively lead, communicate, and collaborate consistently results in impactful industry achievements, delivering complex IT projects while consistently exceeding stakeholder expectations.

- Extensive state government experience managing initiatives for the State of Vermont and multiple State of Ohio agencies, including OPERS, Department of Health, Department of Mental Health, and Bureau of Workers' Compensation.
- Led large-scale Medicaid modernization efforts for the State of Vermont, resulting in $90M cost avoidance and enhanced compliance with CMS Interoperability Rule 57.
- Successfully delivered enterprise content management (ECM), LIMS, pharmacy forecasting, and business intelligence solutions for public sector agencies.
- Managed end-to-end system implementations, including COTS, cloud/SaaS, and custom solutions using Agile and Waterfall methodologies.
- Skilled in coordinating matrixed teams, backlog management, and project tracking using Azure DevOps, Jira, Microsoft Project, and SharePoint.
- Proven ability to align technical execution with business goals, ensure compliance with federal mandates, and deliver on-time, on-budget results.
- Strong background in stakeholder communication, conflict resolution, and cross-agency collaboration in highly regulated environments.

EDUCATION:

- Project Management Certificate - University of California, Irvine, California – 2001
- Computer Sciences from Ohio State University, Columbus, Ohio.
- AA – Information Technology - MATA College, Columbus, Ohio.

CERTIFICATIONS:

- Project Management Professional (PMP) (#34508) – since 2001 – valid through 2029.
- PMI – Citizens Development Business Architect (CDBA) – since 2022.
- Agile Certification (ACP) Boot Camp Instructor – iCert Global – since 2018.
- Project Management (PMP) Boot Camp Instructor – iCert Global - since 2016.

PROFESSIONAL EXPERIENCE:

State of Vermont **Dec 22 – Apr 25**

Senior IT Project Manager

MMIS: Experience includes ePMO driven Project Management of complex Medicaid systems in Vermont:

Coordination of Benefits (COB): Managed the $1.2 million project to deploy system modifications within the MMIS platform, enhancing Medicaid claims processing with automated daily and monthly eligibility updates from COB carriers (i.e. BCBS, CIGNA, UHC), resulting in $90 million cost avoidance for the state.

Long-Term Care Case Management: Transformed Medicaid member Long Term Care (LTC) support through the development and deployment of a Salesforce application, including automating data updates via integration with state mainframe eligibility and enterprise content management systems. This process improvement ensured CMS timeline compliance by replacing manual data discovery with automated systems support.

CMS Interoperability: Project planning focused on integrating systems within the MMIS platform to meet CMS Interoperability Rule 57 requirements for Medicaid. Features include enhancing electronic prior authorizations, improving reporting, and providing API support to enable data sharing for patients, providers, and payers as mandated by CMS Rule 57.

Responsibilities:

- Managed a large-scale software development project for a matrixed team, effectively utilizing ADO to manage project backlogs, track sprints, and visualize progress using dashboards and Kanban boards.
- Implemented a comprehensive communication strategy leveraging SharePoint for centralized project documentation, decision logging, and information dissemination across the team.

- Implemented communication system for effectively managing and resolving conflicts arising from competing priorities within a matrixed environment, reducing escalations by 20%.
- All end-to-end project requirements elicited and journaled using Azure DevOps (ADO) as User Stories, which enabled the creation of UAT test cases validated using ADO test suite. All project-related documentation, including requirements, test plans, and test results, are accessible via SharePoint. For Salesforce components, Copado was used to ensure streamlined and controlled delivery processes.

State of Ohio – OPERS, Columbus, OH **Jul 21 – Dec 22**
Project Manager
Responsibilities:

- For the Ohio Public Retirement System management team, the team built the go-forward strategy focused on Enterprise Content Management (ECM). Key accomplishments included:
- Leading ECM requirements development: Managed the development of the ECM requirements package, ensuring high-quality deliverables and effective team collaboration.
- Provided strategic direction, ensured top-tier deliverables, and maintained team alignment throughout the project.
- Delivered comprehensive ECM Project Activities including thorough current state assessment of the existing ECM infrastructure and security.
- Designed a secure, new ECM solution blueprint based on customer needs and industry COTS offerings.
- Created and delivered the detailed implementation plan for the new system.

State of Ohio – Department of Health, Columbus, OH **May 20 – Jun 21**
Program Manager
Responsibilities:

- Served as a Program Manager for the State overseeing the implementation of a commercial off-the-shelf (COTS) Laboratory Information System (LIMS). Key aspects of the work included:
- LIMS Implementation: e-LIMS for life science process testing, integrating it with the Innovate Ohio Platform (IOP) for reporting and analytics.
- eLIMS deployment, utilizing Microsoft Project for planning and JIRA for development and defect tracking.
- Life Science Testing - involved implementing systems to manage specimen testing, as directed by CDC.
- BI Reporting: The modernized system included business intelligence (BI) reporting integrated with the IOP.

State of Ohio – Dept. of Mental Health and Addiction Services, Columbus, OH **Mar 19 – May 20**
Flairsoft Project Manager
Responsibilities:

- Successfully managed the implementation of a replacement forecasting engine within the Pharmacy system.
- P4 Integration - Oversaw the integration of the P4 forecasting engine into Microsoft Dynamics GP, enhancing inventory forecasting and order suggestions.
- Supply Chain enhancement: Project involved integrating P4 with the existing supply chain, including sending orders to the state's financial system (OAKS) for Purchase Order generation.
- Supplier Integration: Solution utilized Service-Oriented Architecture (SOA) applications to interact with major suppliers (AmerisourceBergen, Cardinal Health, and McKesson Medical), gathering pricing and availability data for improved supply chain decision-making.

State of Ohio – Bureau of Workers Compensation / Flairsoft, Columbus, OH **Oct 18 – May 19**
Flairsoft Project Manager
Responsibilities:

- **Data Warehouse Systems -** Managed complex data-centric projects for the State of Ohio, specifically within the Bureau of Workers' Compensation (BWC) and the Department of Transportation (DOT).
- **BWC Data Warehouse:** Successfully implemented (including Scrum Master Role) a data virtualization solution using Denodo and Tableau, enabling data-driven decision-making and digital transformation.
- **DOT Data Warehouse:** Led the development of a proof-of-concept enterprise data warehouse solution, consolidating multiple systems onto a unified view - modernizing business intelligence.
- **WTW Global Data Governance:** Provided oversight for a large-scale global data governance initiative, standardizing data management across 70 global organizations, with collaboration from Ernst & Young and Microsoft.

Nationwide Insurance, Columbus, OH **Apr 17 – Oct 18**

IT Project Manager
Responsibilities:

- Managed Marketing Business Systems (MCC) IT projects delivering the Guidewire COTS Policy Center system with integrations into legacy applications.
- This management assignment coordinated efforts of more than 600 matrixed resources delivering insurance transformation features using Agile methods.
- Managed Celebrus system deployment and the efforts of six different contributing teams. Solution addressed gaps in Nationwide's ability to track online digital user interactions.
- Managed the platform migration of 7,000 SharePoint sites from on-premises to Microsoft-Cloud.
- Supported the translation of business requirements into formal agreements establishing specific Service Level Agreements (SLA).

Kaiser Permanente **Feb 16 – Apr 17**
IT Project Manager, Consultant
Responsibilities:

- Managed IT Delivery Program implementing MMIS Medicare Advantage for the region. SDLC development work included analysis, requirements definition, and changes implemented for KP legacy and EPIC based healthcare systems in support of opportunity changes defined by the Centers for Medicare and Medicaid Services (CMS). The assignment included project initiating activities such as identifying stakeholders, identifying project management approach, defining roles and responsibilities, as well as used proven project management methods and practices to facilitate the achievement of project outcomes. Role required the ability to provide a complete view of the overall project to the organization and all stakeholders.

University Hospitals **Jan 15 – Jan 16**
Project Manager, Consultant
Responsibilities:

- Managed/Delivered Business Intelligence (BI), cloud based, SAAS, Healthcare Enterprise MMIS Data Warehouse (EDW) solution, supporting fourteen (14) system hospitals. The $3M, nine (9) month project, produced BI formatted data consumed by organization headquarters including private insurance and Medicaid systems. The solution implemented Premier's cloud based SAAS Enterprise Data Warehouse. The Business Intelligence project was chartered to deliver the Healthcare Enterprise Data Warehouse solutions and Business Intelligence tools supporting all system hospitals.

Westfield Insurance, Lodi, OH **Sep 13 – Jan 15**
PMO Program Manager, Consultant
Responsibilities:

- Managed the IMPACT Project Management Office (PMO). That delivered a $100M Guidewire (COTS) Claim Center system with integration into PeopleSoft. Managed implementation of agency (B2B)/consumer (B2C) data access portals, Onbase ECM solutions, security/authentication processes, and the delivery of consolidated reporting and senior leadership interaction.

CGI & Mapfre Insurance **May 12 – Aug 13**
IT Project Manager
Responsibilities:

- For CGI, Mr. Ryal served as a Project Manager for the delivery of MMIS Medicare RAC system audits. He had end-to-end accountability for Business Process Outsourcing of the (Washington) state healthcare provider audits. Project team members were matrix managed and resided in multiple locations working virtually to produce deliverables. Project Management activities were deliverables-based and planned using Microsoft Project.

Mississippi Department of Environmental Quality (MDEQ)
DAMS SOW
JESIL JAMES DSILVA

Role: Sr .NET Developer/GIS

SUMMARY:

Mr. Dsilva has over 15 years of professional experience in all stages of SDLC (Software Development Life Cycle), involved in gathering user requirements, analysis, design, coding, implementation, debugging, testing, deployment, and documentation across diverse industries / work environments.

- Designed, developed, and maintained multiple web-based systems for the State of Louisiana's Oil Spill Program, including LOSDMS, LASS, and LOSMS—supporting sample tracking, restoration project management, and public data access—using .NET, VB.NET, ASPX Web Forms, and ArcGIS/ArcGIS Online.
- Experience in Hybrid/mobile apps development using Ionic, Capacitor, Cordova.
- Good knowledge of databases – Azure SQL, SQL Server, and Mongo DB.
- Experience in working with 3-tier/N-tier architecture.
- Hands on technology experience of designing and developing software applications with Microsoft ASP.NET Core, .NET Framework 4.0, 2.0/3.0/3.5 using C#, vb.net ASP.NET and ADO.Net.
- Experience working with XML technologies: XML, XSL, XSLT, XPATH and XML Schema for data sharing/ migration and reporting by SSIS, SSRS and AJAX.
- Proficiency in Visual Studio. Expertise in using Entity Framework and Code first migration configurations.
- Design and implement applications using Azure Virtual machines, VMSS, Azure Application Gateway,
- Azure Kubernetes Services in Azure cloud environment.
- Expertise in building Angular and ASP.NET applications using .Net CLI and various UI tools.
- Experienced in working in different Software Development Life Cycle (SDLC) models like Waterfall and Agile/SCRUM in a fast-changing environment.
- Experience in Node environment using Node.js, NPM.
- Expertise in .NET framework with great proficiency in creating applications using MVC, WinForms, Web Forms, ASP.NET, C#.NET ADO.NET, Cascading Style Sheets (CSS), JavaScript, Angular JS, Bootstrap, WCF, IIS 8.5, SQL Server 2005 /2008/2012/2015, LINQ and Visual Studio .NET.
- Experience in Client Object Models and Client-Side scripting languages: Angular, jQuery, Kendo UI, Node JS, Knockout JS, JavaScript, CSOM, JSOM/ECMA scripts.
- Proficient in providing solutions using Object Oriented Concepts, Design principles like SOLID.
- Worked extensively with ADO.NET objects such as Data Adapter, Dataset, and Data Reader to interact with databases like SQL Server.
- Experience in creating, consuming, and publishing traditional XML Web Services (SOAP) and Windows Communication Foundation (WCF) services, web - API (RESTful), WPF.
- Experience in creating and consuming XML Web Services using C#, ASP.NET and IIS.
- Expertise with Object Oriented Analysis and Design (OOAD), Service Oriented Architecture (SOA) and Model-View-Controller Architecture (MVC).
- Experienced in TEAM FOUNDATION SERVER (TFS), Visual Studio Team Services (VSTS), and Visual Source Safe (VSS) for continuous integration and Agile Methodologies for planning and tracking work items.
- Experienced in Agile & Waterfall project Methodologies for managing Project execution, planning, Sprint Planning, User Stories, Tasks, Backlogs, Scrum Calls.
- Ability to meet deadlines and handle multiple tasks, decisive with flexible work schedules.
- Self-motivated with excellent communication and interpersonal skills.

EDUCATION:

- Bachelors in Electronics and Instrumentation from Cochin University of Science and Technology, India in 2008.
- Masters in engineering science (Information Technology) from Louisiana State University, Baton Rouge, LA in 2012.

TECHNICAL SKILLS:

Web Technologies	:	ASP.NET, C#.NET, Entity Framework, HTML, CSS, Bootstrap, XML.
Scripting Languages	:	Angula, Ionic, Node JS, Knockout JS, jQuery, JavaScript, Typescript.
Web Services	:	WCF Services, REST API, Web API, jQuery, SP Services.
Operating Systems	:	Windows 95/98/2000/XP/NT/Vista/7/8/10, MS-DOS.

DBMS	:	SQL Server 2000|2005|2008|2012, MySQL, SQL Lite, SSRS SSIS, Crystal Reports.
Testing Methodologies	:	Manual Testing, Integration Testing.
Database	:	SQL, MongoDB.
Frameworks	:	Telerik's Kendo UI, Ajax Toolkit, .Net Framework 3.0/3.5/4.0, .Net Core.
Environment Tools	:	Microsoft Visual Studio 2005/2008/2010/2012/2013/2015/2017, Visual Studio Code, SharePoint Designer 2007/2010/2013, TEAM FOUNDATION SERVER (TFS), VSTS, VSS, Office 365, MS Office, Open Office, Tortoise SVN, Edit Plus.

PROFESSIONAL EXPERIENCE:

Kinesics LLC, Baton Rouge, LA **Aug 19 – May 25**

Lead developer

Responsibilities:

- Led the creation of a novel ROM measurement methodology, replacing the conventional HALO device in healthcare. Developed an efficient, cost-effective tool for obtaining ROM data, enhancing accuracy and profitability. Successfully guided cross-functional teams in implementing the new methodology, driving improved efficiency for healthcare organizations. Setting the overall direction and strategy for the software development team. Defining and implementing software development processes and best practices. Build multiple Progressive web applications for patient range of motion measurement intake, program design and data analysis.
- Involve in complete software development life cycle (SDLC).
- Coordinate with business users in gathering business requirements, designing, and programming the application according to the requirements and translating them into technical specifications.
- Created a hybrid application to measure range of motion measurements of patients using smart phones.
- Created an interactive application for Patient Program Design, streamlining the process of creating personalized treatment plans and improving user experience.
- Developed and led the implementation of an admin dashboard for healthcare organizations, professionals, and reporting purposes, enabling analysis of ROM data and access to comprehensive musculoskeletal health indexes, while ensuring adherence to user needs and industry best practices.
- Created an interactive application for Patient Program Design, streamlining the process of creating personalized treatment plans and improving user experience.
- Successfully led the integration efforts to connect the current system with EPIC Health, adhering to HL7 standards. Implemented robust data integration processes, enabling efficient and secure communication between the current system and EPIC Health, ultimately improving patient care and data management.
- Implemented a subscription model for the app, providing users with access to premium features and services through a subscription-based pricing model.
- Participated in code reviews and given suggestions to other developers.
- Interacted with RESTful Web services using Angular Http Module.
- Created elegant responsive UI for developing presentation layer. Used HTML5, CSS3, Bootstrap, JavaScript and Angular 9 for building views, partial views and reusable templates following the organizational and UX standards. The templates created the base for other developers to build their modules easily.
- Configure resource optimization and security for Azure resources to comply with cloud security and optimization recommendations.
- Demonstrate a strong understanding of object-oriented design patterns, principles and frameworks used for web application development.
- Implemented Restful API's using C#.Net.
- Consuming Rest API's using Angular/Typescript also Working on using JavaScript for client-side validations.
- Integrated applications with a WEB API to enable transfer of data between the client and server.
- Designed and developed Stored Procedures, tables, Indexes, Triggers and views, Used Azure SQL as database.
- Participated in Unit testing of the application and wrote the test cases to test each of the application modules with the help of NUnit.
- Worked with QA team on a daily basis in fixing the reported bugs/defects.
- Worked on TFS Source control for managing the source code.

- Involved in Scrum Methodology and involved in daily sprint meetings.
- Involved in loading data into dimension tables in SQL Server using SSIS packages.
- Involved in creating reports using SQL Server Reporting Services (SSRS).

Technologies: .NET Core 3.0, C#, Angular 9, Ionic, Capacitor, Restful API, Azure, Java Script, jQuery, Visual Studio, CSS, HTML, Kendo UI, Team Foundation Server, SQL Server, Agile Scrum, Web API and JSON.

Technology Engineers Inc, Baton Rouge, LA **Jul 15 – Aug 19**
Senior .Net Developer
Responsibilities:

- Involved in requirement analysis, Design, code, and unit test.
- Architected and developed FASTLANE Next Generation (FASTLANE) which is the web-based system that manages Louisiana's business incentive programs that are approved by the Board of Commerce and Industry. The FASTLANE website is a secure online interface that allows applicants to electronically send data directly to Louisiana Economic Development. It is designed for individual applicants managing one company or consultants who manage multiple companies' data.
- Developed the templates primarily using C#.Net with the business logic implemented using .Net Assemblies.
- Actively involved in Software Development Life Cycle including Analysis, Design, Implementation, Testing and Maintenance.
- Used AGILE SCRUM development Methodology to ensure teamwork, collaboration, and process adaptability throughout the life cycle of the project.
- Developed POC project using Angular utilizing Bootstrap and Oath and .Net WebAPI
- Extensively used XML for data transfer across different systems.
- Implemented and deployed XML Web Services (SOAP) using C#.NET and validated client-side components using JavaScript and Ajax, C#, XML, CSS Web services.
- Created and consumed Web services, Web API, WCF and REST services.
- Actively involved in coding and designing using C#, XML, JavaScript, HTML, and Cascading style sheets (CSS3).
- Designed and implemented application using Object Oriented Programming C#, ASP.NET, Web Forms, ADO.NET, HTML, CSS3, AJAX, and User Controls.
- Used LINQ to Entities heavily for CRUD operations, massage the data, various LINQ operators to improve the performance by reducing the roundtrips to database.
- Implemented Web API to use in the application for critical operations and populate the JSON, XML type data to controller.
- Designed and implemented reusable software elements like Custom Controls an also User Controls using ASP.NET.
- Used web server controls like Login Control, Menu Control and Substitution Control extensively in designing web forms.
- Developed SQL-Packages, Procedures, Functions, SQL Scripts and Database Triggers to populate the historic data.
- Create T-SQL joins and sub-queries for complex queries involving multiple tables.
- Using Azure Cloud services various web operations are performed in Azure App Service.
- Worked on cloud computing using Windows Azure and SQL Server Azure.
- Implemented unit test and integration test using NUnit test, which was also used for debugging the program.
- Conducted comprehensive testing of developed objects in development and QA environments, including regression testing before any changes are released to the Production environment to minimize bugs.
- Used Team Foundation Server for Source Code Control, project related document sharing and team collaboration.

Technologies: Angular, MongoDB, ASP .Net Core, MVC Core, Web API, C# .Net, SQL server, GitHub, JavaScript, jQuery, Bootstrap 4, ASP.Net (4.5), MVC 5.0.

Technology Engineers Inc, Baton Rouge, LA **Jan 11 – Jul 15**
.Net developer
Responsibilities:

- Interacting with clients for requirements, discussing the feasibility of requirements, designing the layout of web pages, Architecture and participating in the development.
- Build a website for LATB (Louisiana Tuberculosis Application for Department of Health and Hospitals) using .net stack.

- Migrated LATB from MS Access to web-based application using .Net & SQL Server technologies.
- Developed CMS (Contract Management System) - CMS is a web system designed to manage contracts and associated task orders. All details related to a contract will be entered into this system. Each contract will have one or more associated task orders, and each task order will be entered into with one or more invoices. CMS was developed for the Louisiana Office of Coastal Protection and Restoration.
- Developed LOSDMS, LASS (Louisiana- Oil Spill Data Management System, Oil Spill Sample System) - The LOSDMS web application consists of three main components including: Work Plan Tracking system, NRDA Data Repository, and User and Security. LASS helps as a repository to search samples, store samples, and generate reports for the Oil Spill Samples collected during NRDA restoration activities. It is a web-based system developed on .Net Framework, ASPX Web forms and VB.Net. The main web pages developed for this system are Search Samples, Add/Edit Samples, Reports for Samples, Upload Associated Sample Files. Management. Maintenance and Enhancement of LOSDMS & LASS web applications for OCPR, Louisiana Department of Environment Quality, Natural Resources, Wildlife and Fisheries.
- Developed and architected the Louisiana Oil Spill Management System (LOSMS) - the admin system maintaining the data and details such as agency involvement and responsible party billing of oil spills throughout Louisiana as well as managing the efforts related to restoration projects. In addition, there is a related public site that coordinates with the admin site.
- Developed customized and online Maps using ArcGIS and ArcGIS Online for LOSDMS.
- Worked on FASTLANE, which is the web-based and windows-based system that manages Louisiana's business incentive programs that are approved by the Board of Commerce and Industry. The FASTLANE website and desktop application allows applicants to electronically send data directly to Louisiana Economic Development.
- Involved in designing, trading and documentation of application flows and developed functional diagrams using Visio, worked on presentation layer for developing GUI and developed various Web forms using ASP.Net.
- Created UI pages by using Angular JS and consumed WEB API services using $http services.
- Configured security features for the application using Form Based Authentication and Role Based Authorization using C# and ASP.NET.
- Created rich, easy-to-use and highly interactive UI using ASP.NET, HTML5, CSS, and master pages.
- Used Entity framework 4.0 for CRUD operations on various modules like Equipment Creation and Work orders.
- Tested the application for performance issues and data integrity using NUnit.
- Software Configuration Management, setting up company Version policies utilizing Team Foundation Server (TFS).

Technologies: MS Access, ASP.Net (4.5), MVC 5.0, C#.NET, RDLC Reports, SQL Server 2012, RDLC Reports, WCF Web services, TFS, ArcGIS, VB.NET (.Net Framework 3.5), IIS 7.0, Windows Forms.

Louisiana State University, College of Education, LA **May 10 – Jul 11**
Database Administrator and Applications Developer
Responsibilities:

- Followed Involved in Enhancing the applications based on customer requirements.
- Responsible for Testing and Debugging.
- Used ADO.Net to interface the database to the front end.
- Used various Validation controls in ASP.NET and VB.NET Web Forms for validation.
- Database development and Maintenance of SQL Server.
- Ran weekly Reports and automated the student's grade reports.
- Maintained the hardware for the student's computer lab.

Technologies: ASP.NET, C#, Visual Studio 2010,2012, .Net framework 3.5,4.5, CSS, JavaScript, ADO.Net, XML, SVN, SQL Server 2008.

Mississippi Department of Environmental Quality (MDEQ)
DAMS SOW
KISHORE KUMAR KATTA

Role: DBA and Architect

SUMMARY:

Mr. Katta is a spearhead in the definition, design, development, and Database administration of SQL Servers, Azure, and T- SQL developer experts in (SSIS, SSRS, SSAS & PowerBI), transaction applications, and reporting capabilities, with expertise in solutions that leverage Microsoft technologies.

- His Professional Experience includes working as a Senior Database Administrator and Architect with 19 years of experience in database administration in a large MS SQL Server environment, architecture, T-SQL development of MSBI (SSAS.SSIS & SSRS) with Azure Cloud experience, well known for performance tuning of SQL Server, other Data Platforms and troubleshooting end user, developer problems.
- Worked as Sr. Database Administrator for State of Mississippi (Department of Human Services and Department of Education).
- Possess good Management skills, positive attitude, and ability to work in challenging environment.
- Expertise Database Design, Disaster Recovery, Performance Tuning, High Availability, Data Modeling, Data Migration, Integration, ETL, Business Intelligence, Database Administration, Troubleshooting, Data Center, Data Warehousing, Cluster, Cloud Services, E-commerce, Security, Web Applications, Software Installation, Network Administration, DNS, DHCP, System Administration.

EDUCATION:

- Bachelor's degree in computer science engineering from JNTU India in 2005.
- Master's degree in information technology from JNTU India in 2008.

TECHNICAL SKILLS:

Operating System	:	Windows Server 2000/2003/2008 R2, Windows NT 4.0, Windows XP/98/95, MS DOS, Linux /Unix.
Languages	:	C, C++, T-SQL, SQL plus, OSQL, VB Scripts, HTML, UNIX programming, .net SharePoint.
RDBMS	:	MS SQL Server 2019,2016,2012, 2008 R2, 2005, 2000, Amazon RDS, Microsoft Access. Oracle 11g
Cloud	:	Microsoft Azure (IaaS and PaaS), AWS
Front End	:	MS Visual Basic
Middle Tier	:	COM, DCOM, MSMQ
SQL Server Tools	:	Enterprise Manager, Profiler, Query Analyzer, Export & Import (DTS), SSIS, SSRS, Replication, Visio, Data Integrator (BODI), Power Shell.
Third-Party Tools	:	Erwin, Red Gate backup tool, Lite Speed backup tool, Quest's Fog light, Net IQ.

PROFESSIONAL EXPERIENCE:

SRR Technology Services, Brandon, MS **Jul 23 – Present**

Database Administrator & Architect

Responsibilities:

- Designed and optimized databases using Oracle 11G through current versions.
- Administered SQL Server from 2000 to current versions in production and development environments.
- Developed MS Access-based applications for internal reporting and tracking.
- Migrated legacy databases to MariaDB 10.16.12 for performance and scalability.
- Created complex stored procedures, views, and triggers in Oracle and SQL Server.
- Performed data modeling and normalization for new application development.
- Implemented backup, recovery, and disaster recovery solutions for SQL Server and Oracle.
- Developed ETL processes using SQL Server Integration Services (SSIS).
- Deployed and configured web applications on IIS for intranet and internet use.
- Designed and maintained thick-client applications using .NET and Visual Studio.
- Developed dynamic PHP-based web portals for internal operations.
- Integrated ASP-based applications with SQL Server for data-driven services.
- Designed custom dashboards and reports using SSRS for various business units.
- Utilized Infragistics controls for creating rich, responsive web interfaces.
- Ensured web application security and compliance with industry best practices.

- Upgraded legacy ASP/ASP.NET applications to modern frameworks.
- Developed enterprise applications using C#.NET in multi-tier architecture.
- Built reusable UI components using VB.NET and Infragistics.
- Automated daily tasks and report generation using PHP and JavaScript.
- Developed RESTful APIs and integrated third-party services using C#.NET.
- Conducted code reviews and debugging in Visual Studio IDE.
- Maintained JavaScript-heavy front-end applications with AJAX and jQuery.
- Wrote test cases and performed unit testing using NUnit and Visual Studio tools.
- Refactored legacy code to improve performance and maintainability.
- Designed responsive user interfaces using ASP.NET Web Forms and MVC.
- Customized Infragistics controls advanced reporting and input validation.
- Developed SSRS reports with parameterized queries and drill-down capabilities.
- Enhanced UI accessibility and usability following WCAG standards.
- Integrated .NET UI components with backend services for seamless performance.
- Improved UI load time and responsiveness through front-end optimization.
- Migrated web applications across platforms including PHP to .NET and vice versa.
- Collaborated with cross-functional teams for full-stack development projects.
- Documented development workflows and created technical manuals for users.
- Provided training and support to junior developers on C#.NET and SSRS.
- Participated in Agile development processes including sprint planning and retrospectives.
- Managed source control using Git and TFS for versioning and collaboration.
- Worked closely with QA teams to resolve bugs and improve software quality.
- Conducted proof-of-concept projects for new technologies like MariaDB and Infragistics.
- Led performance tuning and query optimization projects for large-scale databases.
- Ensured code security and compliance with OWASP standards in all development stages.

Mississippi Department of Human Services, Jackson, MS **Feb 20 – Jun 23**
Database Administrator & Architect
Responsibilities:

- Maintained SQL database data for systems ranging from tracking files submitted by clients to checks sent via the SNAP/TANF systems to clients being able to see notices for DMV, SNAP/TANF, child support, P-EBT, EFT, and other financial transactions. The SQL databases are used as repositories of information for all the major applications and web services we offer to support the citizens of Mississippi.
- Responsible for Mississippi state-wide public serving database servers of all OLTP, OLAP operations, applications like DMV, EBT, SNAP, METTS, MAVERICS, JAWS, FITS, and support for development teams.
- Profound Azure cloud practice, strong perseverance, and diligence towards attaining challenging goals and possess good communication skills and quick learning ability.
- As Database Administrator managing the SQL Servers and Databases on both Azure Cloud and on-premises environments.
- Installation and configuration of SQL server 2008, 2008 R2, 2012, 2014, and 2016 on Windows Platforms like Windows 2008/2008 R2/2012 R2 through power shell and GUI.
- Configuration of Log shipping, mirroring, Failover Clusters, and Always-on Availability groups for Production and QA Environments.
- Creation of Virtual Machines, Storage account creations, Virtual Networks, and Deploying SQL Server and configuration of AlwaysOn (Azure IaaS).
- Created Blob Storages in the Azure environment to store backup files and copied files from Azure Blob to local using Azure CLI.
- Created SQL Server Databases in Azure PaaS like Single Database, Elastic pools, and Managed Instances.
- Migrated Databases from On-Premises to Azure using tools like DMA, DMS, BACPAC, and Export/Import.
- Configured Geo Replication for Azure SQL Server Databases.
- Implementing Backup strategies of the Databases using Maintenance plans, T-SQL, power shell scripting, and third-party tools like SQL safe, Commvault, and lite speed.
- Applying Service Packs and Security patches for SQL Server 2008 R2, 2012, 2014, and 2016.
- Managing users and logins Security (Creating users, logins, and roles, granting permissions).
- Check Index fragmentation and defragmentation, and index recommendations.
- Analyzed database usage and proactive steps to ensure SLA levels.

- Created Jobs and Sending Alerts using DB Mail.
- Troubleshoot and fine-tune databases for their performance and concurrency.
- Administered and optimized enterprise-level Microsoft SQL Server databases (2012–2022) supporting mission-critical applications.
- Leveraged Database Server Performance and Optimization tools to monitor and enhance system performance.
- Designed and implemented robust database backup, restore, and data archiving strategies to ensure business continuity and compliance.
- Enforced Microsoft SQL Server security best practices, including role-based access control, encryption, and auditing.
- Configured and managed AlwaysOn Availability Groups for high availability and disaster recovery solutions.
- Implemented and maintained transactional replication and SQL Server clustering to support distributed systems.
- Authored complex T-SQL scripts for query optimization, troubleshooting, and performance tuning.
- Planned and executed seamless database upgrades and migrations across multiple environments.
- Deployed and managed Database Platform-as-a-Service (PaaS) solutions in Azure Cloud environments.
- Developed CI/CD pipelines for automated database deployments and integrated with tools like Azure DevOps.
- Automated routine database tasks using PowerShell and shell scripting to improve operational efficiency.
- Designed and implemented data integration workflows using Azure Data Factory for ETL processes.
- Architected data warehouse solutions following best practices in ETL data warehouse architecture.
- Configured and monitored Change Data Capture (CDC) tools to ensure real-time data replication and availability.
- Performed installations, patching, upgrades, and proactive health checks to maintain system integrity.
- Earned Microsoft SQL Server certifications, validating expertise in database management and optimization.
- Authored and optimized T-SQL scripts and batches for data transformation, reporting, and automation.
- Developed and deployed advanced SSIS packages for data integration and transformation workflows.
- Gained hands-on experience with NoSQL databases like Cosmos DB and MongoDB, broadening database expertise.
- Implemented robust database security protocols, including encryption, audit logs, and vulnerability management.
- Utilized infrastructure-as-code tools like Ansible and Terraform to automate database provisioning and configuration.
- Integrated monitoring tools like Datadog to ensure proactive database performance monitoring and alerting.
- Migrated on-premises databases to Azure Cloud using Azure Migrate, ensuring minimal downtime.
- Implemented replication strategies, including peer-to-peer and merge replication, for scalable data sharing.
- Designed and optimized ETL pipelines to support data analytics and reporting requirements.
- Applied CI/CD principles to database development, integrating schema changes and code deployments seamlessly.
- Developed advanced PowerShell scripts for database maintenance, backups, and disaster recovery planning.
- Collaborated with cross-functional teams to define and implement database architecture aligned with business goals.
- Enhanced data security by implementing GDPR and HIPAA-compliant solutions for sensitive information.
- Actively participated in database audits, capacity planning, and resource optimization initiatives.
- Worked with heterogenous databases Adabas, and SQL Servers implementing best practices
- Securing Applications by designing secure access to AWS resources, designing secure
- application tiers and selecting appropriate data security options.
- Building Cost-optimized Architectures by identifying cost-effective storage solutions, identifying cost-effective computer and database services, and designing cost-optimized network architectures.
- Install and patch SQL Server software for standalone and clustered configurations.
- Defined, documented, and implemented SQL Server best practices for MDHS & ITS database environments.
- Define, document, and perform procedures for SQL Server database migrations (hardware refreshes, SQL version upgrades, on-prem to cloud migrations).
- Performing the heterogenous and homogenous migrations from Oracle to SQL server and DB2 to SQL server.

- Implementing side-by-side migrations and in-place migrations as per requirements.
- Manage SQL Server AlwaysOn clusters for SQL 2014 and above running on Windows 2016 and above.
- Develop and customize SQL Server maintenance jobs
- Monitor and remediate SQL Server maintenance job failures to include backups, DBCC, and reindexing.
- Troubleshoot database and instance performance problems.
- Troubleshoot issues with SQL Server high availability solutions to include Windows Failover Clusters and SQL Server AlwaysOn for servers in private cloud and public environments.
- Review and provide feedback on scripts and procedures for SQL Server database changes.
- Implement and maintain database security according to MDHS & ITS security provisions.
- Proactively monitor database systems to ensure minimum downtime.
- Perform database analysis and tuning to include database instance configuration, add/drop/change indexes, query tuning, maintenance routines, etc.
- Review SQL Server instances for standards compliance and best practices.
- Provide excellent customer service for incidents and service request tickets.
- Work with development teams to ensure SQL development best practices are understood and implemented.
- Review architecture and infrastructure plans to ensure that recommended server resources are adequate for optimum performance and provide high availability.
- React to and resolve all database related warnings and alarms from the database monitoring system.
- Provide database backup and recovery operation according to a given strategy.
- Review and analyze “critical (security) patch” information sent by Microsoft.
- Manage database storage and capacity planning for internal database objects and database files.
- Escalate and manage problems to resolution through Microsoft Support, SQL Development Team, and/or third parties as appropriate.
- Document SQL standards and team processes/procedures as needed.
- Providing 24x7 on-call support as scheduled.
- Handled More than 65 servers with a 1200 database size of 500 TB.
- Handled Major incident calls and raised PSS cases for Critical issues.

Mississippi Department of Education (SCCSD), Indianola, MS **Dec 13 – Jan 20**
Database administrator
Responsibilities:

- Worked as a Database administrator in various SQL Server versions 2019/2017/2016/2012/2008R2/2008/2005 in Windows Environment.
- Design, functionality, security, performance, scalability, manageability, and supportability of the Azure SQL Database service.
- Distributed high availability, geographical redundancy, and other areas of a large-scale database service.
- High Availability, heterogenous Migrations, Storage, and Data Integrity for databases.
- Installation and configuration of SQL server 2008, 2008 R2, 2012, 2014, and 2016 on Windows Platforms like Windows 2008/2008 R2/2012 R2 through power shell and GUI.
- Configuration of Log shipping, mirroring, Failover Clusters, and Always-on Availability groups for Production and QA Environments.
- Creation of Virtual Machines, Storage account creations, Virtual Networks, and Deploying SQL Server and configuration of AlwaysOn (Azure IaaS).
- Created Blob Storages in the Azure environment to store backup files and copied files from Azure Blob to local using Azure CLI.
- Created SQL Server Databases in Azure PaaS like Single Database, Elastic pools, and Managed Instances.
- Migrated Databases from On-Premises to Azure using tools like DMA, DMS, BACPAC, and Export/Import.
- Configured Geo Replication for Azure SQL Server Databases.
- Implementing Backup strategies of the Databases using Maintenance plans, T-SQL, power shell scripting, and third-party tools like SQL safe, Commvault, and lite speed.
- Applying Service Packs and Security patches for SQL Server 2008 R2, 2012, 2014, and 2016.
- Managing users and logins Security (Creating users, logins, and roles, granting permissions).
- Involved in troubleshooting and fine-tuning of databases for its performance and concurrency.
- 24 X 7 Production Database Support
- Handled More than 500 databases with a database size of 50 TB.
- Handled Major incident calls and raised PSS cases for Critical issues.

- Triaging Incident tickets related to Microsoft SQL Server Platform according to criticality and priority, and resolve or assign and follow up them with team members.
- Also served as subject matter expert (SME) in SQL servers and Azure cloud technologies.
- Supported the overall delivery of services in the following Task/ Activity:

• Auditing, Backup and Recovery	• Performance Tuning
• Capacity Planning	• Replicating Data
• Change Management	• Security
• Data Modeling and Database Design	• Scripting T-SQL, PowerShell
• Developing and Maintaining Best Practices	• Upgrade/Service Pack Application
• Installing, Configuring, Patching, and Upgrading SQL Server Software	• SolarWinds DPA Administration
• Maintaining Documentation	• SQL Server Alerts
• Maintaining Servers and Databases	• Database creation
• Managing Test Environments	• SSIS/ETL
• Monitoring and Migration of databases	• Testing
• Database Optimization, High Availability	• Cluster Administration
• Mirroring design/configuration	• Training Users
• Requirements Analysis	• Troubleshooting

- Designed dynamic SSIS Packages to transfer data crossing different platforms, validate data during transferring, and archived data files for different DBMS.
- Generated database monitoring and data validation reports in ProClarity and Reporting Services SSRS.
- Deployed SSIS packages and Reports to Production Servers. Used SQL to run ad-hoc queries and prepare reports for the management.
- Upgraded databases from SQL Server 2000 to SQL Server 2005.
- Responsible for the design and development of .Net web applications for the firm's Solutions.
- Implemented complex conceptual database design into SQL Server 2005 using Normalization, various Constraints, and Triggers.
- Providing information and assistance to the Database Architects on physical models, setup, and maintenance of metadata.
- Responsible for Query optimization and Performance tuning. Used SQL Profiler for Monitoring memory, processor, Disk I/O, and SQL Queries.
- Proficient in the use of T-SQL for developing complex Databases, Tables, Indexes, Views, Triggers, Stored Procedures, User Defined Functions, relational database models and data integrity, SQL joins, and query writing.
- Maintained system monitoring jobs and provide high availability support.
- Created partition table for very large database for good performance and Provided business intelligence support for the applications and systems.
- Generated test data and tested database to meet the functionalities deliverables in the project documentation and specifications.
- Worked on Migration of packages from DTS using SSIS. Also migrated data using ETL Tool in SSIS.
- Participated in Databases Architecture and Data Modeling design. Performed DBA functions, installing, configuring, and supporting database systems.
- Implemented high availability on the various servers using replication/mirroring. Involved in database Backup and recovery.
- Reported all events and requirements through established reporting mechanisms in SSRS.
- Reviewed and developed data models and database designs with development teams
- Created SSIS packages for extracting data from the database and loading those data in tables in the SQL server.
- Designed and developed MS SQL Server Reporting Services SSRS under SQL Server 2000 and SQL Server 2005.

Glansa Solutions, Hyderabad, India **Feb 05 – Jun 12**
Database Developer (SSAS, SSRS, SSIS) & Database Administrator
Responsibilities:

- Worked on database migrations and upgradations as part of data center exits
- On-call responsibilities for Production database systems.

- Interacting with the Offshore Team and managing the client calls with the Business Team.
- Performing database refreshes and server decommission.
- Worked on 3rd party IDERA tools (Diagnostic Manager and SQL Safe).
- Created SSIS packages via SSIS for transfer of database objects from SQL Server 2005 databases to SQL Server 2008 databases.
- Created Database Maintenance Plans for the Performance of the SQL Server which covers Database Integrity Checks, Update Database Statistics, and Re-indexing.
- Performing SQL server daily health check and preparing a report based on it
- Did Troubleshoot SQL issues by using Tools like Profiler, and Tuning Advisor.
- Generated periodic reports based on the statistical analysis of data from various time frames and divisions using SQL Server Reporting Services (SSRS).
- Developed various operational Drill-through and Drill-down reports using SSRS.
- Developed different kinds of reports such as Sub Reports, Charts, Matrix reports, and Linked reports.
- Worked on SSIS to create ETL packages to validate, extract, transform, and load data to data warehouse and data marts
- Managing and monitoring the Indexes for better performance.
- Performance monitoring and query tuning.
- High emphasis on database security, permissions, and user management.
- Planning for the DR and setting up the DR for Critical databases.
- Fully understand the SLA commitment and meet the standards.
- Working on day-to-day Production database issues.
- Supported 24 X 7 production environments.
- Involved in the development of User Interface.
- Involved in Code modification for enhancement and development of functionalities.
- Involved in designing and developing.
- Implemented Windows form for the module using C#.Net.
- Written SQL statements, and stored procedures using SQL in SQL SERVER.
- Developed User Documents for the users to guide the application.

A change order will be required for any modifications to the project (Including project scope/project cost). The change order must be created by Knowledge Services, based on the approved change order justification received by VENDOR (approved by AGENCY). The change order must be signed by AGENCY, VENDOR, and Knowledge Services prior to the vendor receiving clearance to move forward with the requested changes.

In the event of any inconsistencies between this Request for Project Services Change Order and the terms of the Master Services Agreement, the following order of precedence shall be:

1. Master Services Agreement; and
2. Request for Project Services Change Order

Until the contract is approved and fully executed, any actions you take in reliance of contract approval are at your own risk. Therefore, it may be unwise to expend funds or incur expenses in anticipation that contract negotiations will be successful, and a tendered contract will be approved.

All project milestones, deliverables, tasks, or other such project activities shall be entered and approved in the dotStaff™ VMS by the State. Vendor acknowledges and agrees that Knowledge Services' payment to Vendor is contingent upon approval by the State and receipt of payment from the State by Knowledge Services. The State is solely responsible for approval and payment of all project activities, and Knowledge Services is not responsible or liable to Vendor for non-approval or non-payment by the State.

Authorization		
Vendor Authorized Signature	Vendor Printed Name	Date
Nick Kulshrestha Nick Kulshrestha (Oct 6, 2025 10:04:45 EDT)	Nick Kulshrestha	10/06/2025
Agency Authorized Signature	Agency Printed Name	Date
Chris Wells Chris Wells (Oct 6, 2025 08:52:22 CDT)	Chris Wells	10/06/2025
MSP Authorized Signature	MSP Printed Name	Date
Katie Belange	Katie Belange	10/02/2025