



Dale Baker, Group Leader



INNOVATIVE SOLUTIONS
TO COMPLEX PROBLEMS

Software Applications & Modular Programming (SWAMP) Group Baton Rouge, La



▶ SWAMP Mission and Vision

▶ Mission

- To rapidly deliver high-quality, modular software solutions using agile methodologies and the latest proven technologies, empowering our team to innovate, adapt, and scale with modern, maintainable code.

▶ Vision

- To redefine software development through agility, leading-edge technology, and modular design, becoming the go-to team for fast, flexible, and future-ready digital solutions.





SWAMP Group Profile



▶ Leadership

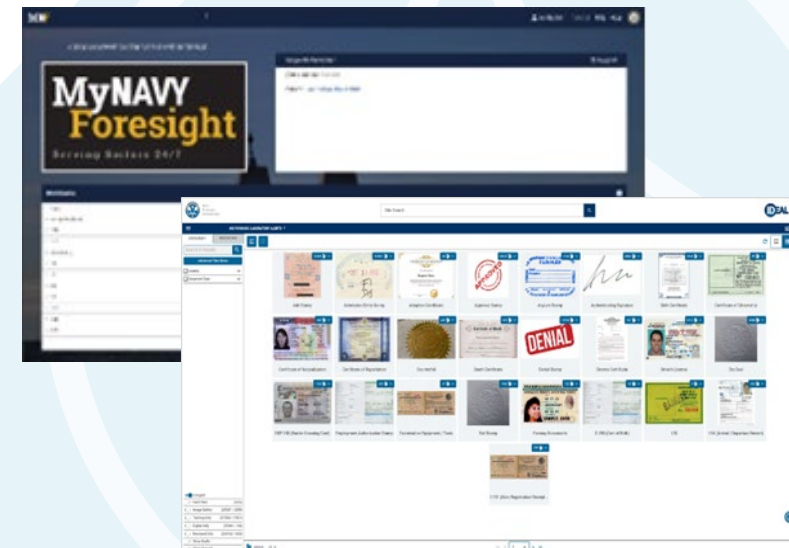
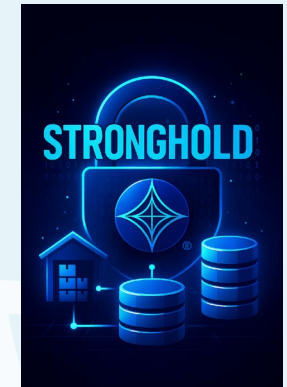
- Group Leader Dale Baker, a principal software developer with more than 20 years of experience delivering innovative solutions across the medical and defense sectors.

▶ Core Capabilities

- Software Architecture & Design
- DevSecOps & Cybersecurity
- Critical Data Housing & Indexing
- Medical Software Applications
- Software Development
- AI, Modeling & Analysis
- Data Lakehouse Architecture

▶ Commitment to Excellence

- Our group is dedicated to delivering exceptional results through technical excellence and mission alignment. We embody ARA's core values—Passion, Freedom, Service, Growth—empowering the team to pursue professional development while achieving mission-critical success for our clients.



MyNavy Foresight

- ▶ Developed for the US Navy, MyNavy Foresight (MNF) leverages MyNavy HR enterprise data to model and forecast manpower, retention, and recruiting trends across the Naval force.
 - **Predictive simulation engine** models future workforce readiness and retention outcomes under varying policy and operational scenarios.
 - **Integrated data framework** uses authoritative MyNavy HR datasets to synchronize personnel, training, and billet information.
 - **Analytical transparency** provides analysis and visualization at each stage of the simulation for traceable, data-driven decision support.
 - **Modern architecture** uses containerized microservices for scalability and performance within secure DoD environments.
- **Impact:** MNF enables Navy leadership to evaluate strength-structure scenarios, optimize recruiting strategies, and anticipate readiness gaps—turning raw HR data into foreseeable foresight for manpower planning.



MNF Sailor Enlistment Forecast



IDEAL 2.0



- ▶ Secure document and identification library for the US Department of Homeland Security (DHS) Immigration and Customs Enforcement (ICE) Homeland Security Investigation Forensic Laboratory (HSI-FL)
 - A forensic-document repository supporting law-enforcement investigations of counterfeit identity, travel, and immigration documents across the U.S. and internationally.
 - Enables intricate data storage and easily searchable fields by a custom dynamic grouping algorithm that is flexible as changes in the identity document field arise.
 - Provides field agents and analysts with high-resolution web viewing of documents. Laboratory personnel image large (>6GB) images using a microscope-based imaging technique to upload to the application for low-latency, deep zoom viewing over the web.
 - Supports multiple image light sources and orientations allowing forensic analyst the ability to view and compare images in one tool.



IDEAL document comparison tools allow users to compare identity documents in various ways, including side-by-side (left), overlaid (center), and side-by-side deep zoom (right).



SWAMP Major Projects: IDEAL 2.0



- ▶ The IDEAL application implements many features to allow users to quickly search, locate, and analyze identity documents from the cloud. These features include:
 - Deep zoom imagery allowing users to upload and view large (>6GB) images from the web with minimal loading times
 - Reference document linking to provide users with the ability to locate reference material based on search criteria with automatic linking to newly added documents
 - Document library system to enable users with access to the physical library the ability to find the location of specific identity documents.



Original Image



The IDEAL document database allows analyst to view images that have been take with high-resolution cameras with extreme detail. This example shows the ability to see printing methods in a sample ID card.