



2021 NASCIO State IT Recognition Award Nomination

Title: MiDARTS – Michigan Discovery and Recovery of Taxes

Category: Business Process Innovation

State: Michigan

Contact: Lucy Pline, DTMB Business Relationship Manager

Phone: (517) 896-5103 Email: PlineL@Michigan.gov

Project Initiation: January 2019

Project Implementation: September 2020



MiDARTS

Promoting taxpayer education and tax compliance

MiDARTS has transformed Department of Treasury Discovery Unit's business processes and successfully created value. A modernized, secure, IRS compliant IT solution enabled discovery and recovery of taxes with greater accuracy and efficiency.

Project Narrative

The Michigan Department of Treasury Discovery Unit is responsible for developing and conducting projects, designed to identify and contact non-filers and under-reporters of the various taxes administered by the Michigan Department of Treasury. Taxpayers are notified of their tax discrepancies using letters of inquiry issued in accordance with [MCL 205.21 of the Revenue Act](#). Treasury was using outdated technologies, shared desktop databases, (like Paradox) and performing tedious manual processes to attempt to complete their responsibilities. Those solutions did not meet all their needs and did not fulfill the security & compliance standards. **They were faced with a huge challenge.**

To successfully meet this challenge, they needed a comprehensive tool that would identify non-compliant taxpayers by utilizing information from a variety of sources. This tool must allow the users to easily load large datasets from various formats and must be web-based, so it can be accessed by various Treasury teams, across the State of Michigan. It must also interface with other critical applications, such as the State Treasury Accounts Receivables (STAR).

MiDARTS is our solution for these challenges, and it is transforming the way we do business. MiDARTS introduces innovative processes to import the data from a variety of sources and validates the data before it is loaded. A new and extensive database structure has been set-up, so that information is stored securely, and this information can be searched and used across projects. It has streamlined the project creation, customer selection and other assessment related processes. MiDARTS has introduced a personalized dashboard, so the users can see details of their projects, such as tasks with due dates, and other essential notifications. The Internal Revenue Service (IRS) requires us to identify and track Federal Tax Information (FTI) fields and projects. MiDARTS allows the user to flag the fields and projects as FTI and appropriate audit log information is collected so the complete trail of who made the changes are always available to auditors and managers. Role-based security allows the users to view information specific to their projects or tax types and at the same time, managers and executives can view and update the information across project and tax types. When the taxpayer does not comply with the inquiry process, assessment information is sent to Treasury's Collections division, funds can then be recovered.

The Discovery Unit's business process and their requirements are unique. Prior to embarking the MiDARTS journey, a Lean Process Improvement (LPI), looked at various solutions. These solutions were used by other states in the US as well as any available COTS solutions. These included Salesforce, SAP, FAST GenTax. It was determined that none of these met their requirements. It was decided that an in-house development team with a budget of \$695,000 would be managed using effective Agile Scrum project management processes. Using this process, the Treasury and DTMB teams capitalized its full potential, experienced high levels of trust and collaboration. As product owners, the Treasury team provided requirements, prioritized the work that delivered the most value. This process worked so well; it will be a model for future projects at Treasury. Because of this improvement the Discovery Unit is bringing in approximately \$175 million each fiscal year. **It is more than just a comprehensive IT solution, MiDARTS has improved the business processes used by numerous Treasury teams and has provided a strong foundation to the department's business intelligence and analytics needs.**

Idea

In 2018, during an IRS Audit, it was determined that the Treasury Tax Compliance Bureau's version of the Paradox application was not suitable for use. At that time, the business processes were not meeting the IRS compliance and security requirements. The team was at risk of not getting the required federal tax information to do their business. In addition to addressing these issues, the Treasury team was looking for an extensible solution that modernizes their business processes, eliminates the manual processes, meets, or exceeds compliance and security requirements, provides business friendly database layer, the use of a personalized dashboard, allows simplified data load process, and utilizes cutting edge technology.

MiDARTS is an internal only application, currently used by the Treasury's Discovery Unit. Other Treasury bureaus use this information for various other business processes. Currently there are 50+ people using this application daily. We are also utilizing business intelligence tools, such as Power BI and statistical models with the data provided from MiDARTS. These processes help us understand the data provided and allow us actionable insights.

MiDARTS is built using Microsoft SQL Server, .Net Framework including object relational mapping Entity Framework and service-oriented architecture (SOA). It utilizes web technologies like ASP.Net MVC, JQuery, Bootstrap, SignalR (which allows server code to send asynchronous notifications to client-side web applications) frameworks. The Treasury team (end-users) collaborated with the IT teams throughout the project lifecycle. As product owners, the Treasury team was able to provide requirements, prioritize high value deliverables, test, and validate during the entire process. We were able to explore a variety of solutions used by other states in the US and any available COTS solutions such as Salesforce, SAP, and FAST GenTax. We feel all of these cannot be compared to the MiDARTS application's functionality and ease of use as well as performance.

MiDARTS has **successfully eliminated all 11 critical IRS findings and another 145 IRS findings** caused by the former Paradox application. MiDARTS application scan was completed with NO critical, high, or medium vulnerabilities. **The project was delivered on time and 2.7% below budget.** MiDARTS has been able to minimize human error by automating reporting processes and now auditors have their own personalized dashboard showing task workflow. The MiDARTS team has been able to automate 95% of the processes, saving thousands of staff hours. A new customer search allows Treasury to deliver an improved taxpayer experience, saving additional staff hours.

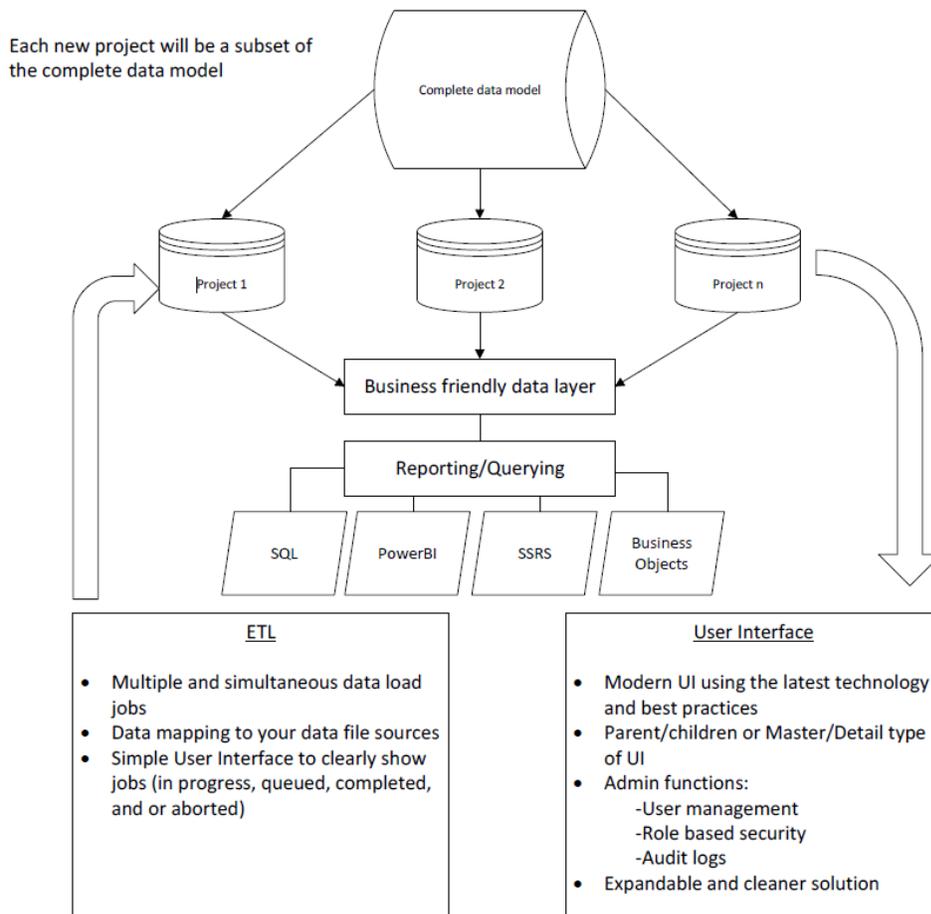
The experience was so successful that the DTMB team has adopted MiDARTS as a model to develop other Agile IT solutions. The end results of this new MiDARTS application have resulted in increased productivity, increased revenue, increased taxpayer compliance, as well as overall efficiency and fraud prevention.

Implementation

We began researching possible solutions on January 14, 2019. As mentioned previously, both existing and internally developed solutions were considered. After a proof of concept was delivered, Treasury was convinced DTMB could provide the solution internally. Development began on July 1, 2019 and the successful Go Live date was September 17, 2020.

The MiDARTS project was implemented using a **three-step design process**:

- Multiple sessions were held with customers for a deeper understanding of their problems and requirements.
- Multiple brainstorming sessions to explore solutions, prototyped shortlisted solutions and received feedback. We also refined the most preferred solution through iterations and validation process.
- After agreeing on the full project scope and receiving the customer buy-in, the development started in July 2019. The project was successfully implemented in September 2020.



DTMB implemented the project using Agile/Scrum processes. The project team included product owners from Treasury, a scrum master, an architect, a business analyst, and two developers. **The team used daily stand-ups, sprint planning, story board, backlog, and sprint retrospectives. The product deliverables were demonstrated to stakeholders at the end of each sprint to get feedback and make improvements.** The project was successfully delivered on time and 2.7% below the budget of \$695,000.00.

Key Performance Indicators (KPIs) used to benchmark successful project implementation are as follows:

1. Product Development
 - a. Ontime Delivery – Performance against deadlines using project management techniques to track schedule, scope, and cost. Monthly status update meeting with stakeholders to provide updates, get feedback, and improve business confidence.
 - b. Team Velocity – Number of user stories, story points and sprints.
2. Quality
 - a. Support Tickets
 - b. Defect Rate
3. Usage
 - a. User Count - 50+ users from Discovery Unit utilize this application daily. Other users from various Treasury teams also use this application. Information is also utilized through business intelligence and analytics tools like Power BI. These reports are used by various department leads and executives.
 - b. Time to Complete – Data from various sources and formats can be imported by creating a simple schema and validation rules. Multiple loads can be set-up and queued. The application provides notifications upon completion of data load. Datasets with millions of records are loaded with ease and no manual monitoring/process saving staff hours.
 - c. Audit Logs – These logs capture audit information about who and when changes are made to data. The Business and IT teams can review and take appropriate actions.
 - d. Personalized Dashboard – Each user can view their own dashboard with tasks and due dates. The application sends alert notifications about upcoming tasks. It provides one place to look and plan their work across multiple discovery projects.
 - e. Customer Search – Customer information can be searched across projects and used without manual reentry of data.
 - f. Reports – SQL Server Reporting Services (SSRS) provides a comprehensive reporting solution. With only a few clicks, the customer can generate powerful and useful reports.

MiDARTS is a modernized IT solution that meets the customer’s current and foreseeable future needs.

Many of the benefits of this application can be explained with the following list:

- MiDARTS utilizes cutting-edge web technologies and design techniques.
- The application **design follows all accessibility standards including Section 508 and ADA compliance requirements**. The review and validation are done by State of Michigan’s ADA compliance team.
- It provides **consistent customer experience** on all devices (browser, mobile and tablet) using **responsive design techniques**.
- It supports different channels:
 - Users can initiate a data import from one device and review the status of their load process from a different device or notified after completion.
 - Users can also view the personalized dashboard with tasks and due dates. Users can take actions on one device and review/complete those actions on another device.
- The development processes used **consistent application of secure DevOps processes** throughout the project lifecycle.

All sponsors and decision makers were available whenever they were needed even outside regularly scheduled meetings. **COVID 19 occurred in the middle of the project but the team was not impacted and kept going at 100% capacity.**

Impact

MiDARTS has been able to modernize the outdated business processes, it has streamlined employees' access to data and delivered value to the Treasury teams in the following manner:

- Data from multiple sources and formats is loaded into MiDARTS in a consistent manner (define schema, set-up validations and data source).
- Personalized Dashboard – This feature provides consistent and memorable experience. Users view their tasks across discovery projects. Use of SignalR technology provides alerts about critical tasks, making them more productive.
- Ability to identify and flag Federal Tax Information (FTI) fields and projects.
- Data Analytics – Business intelligence tools like Power BI and statistical models are used based on the information in MiDARTS. These processes help understand their data and derive actionable insights.
- Interface to STAR (State Treasury Accounts Receivables) is completely automated. When the taxpayer is out of compliance, tax assessment information is shared with the Treasury Collections team to enforce collection activities and recover funds.

Business KPIs

- Focused on performance of product against organization goals – Reduce audit findings, IRS compliance, Security, Audit logs, Data for additional business intelligence and analytics.
- Net Promoter Score (NPS) – details about how delighted the customer is provided in ad-hoc surveys, interactions with users and in monthly status meetings between IT and business teams. New features are added to backlog based on feedback.
- Market Position – Some comparable solutions are SAP, FAST GenTax. These do not provide all features of MiDARTS. None of other states in the US have similar program or solution. This is a unique, comprehensive, and innovative solution.

MiDARTS has provided an online application that is compliant with IRS standards, it has modernized several department tools, it has automated 95% of the legacy processes and it has saved thousands of staff hours. MiDARTS has also provided a flexible and extensible database structures to allow the use of business intelligence and analytics tools such as Power BI and various other statistical models for data analysis. **A post implementation survey showed 99.5% overall satisfaction, justifying the investment.**

The Treasury's Deputy Director commented, "A great example of teamwork. MiDARTS has been a model project." Other bureau directors said, "The collaboration, hard work and talent of this team is impressive. You all have set the bar high for future projects and that is something to be proud of."