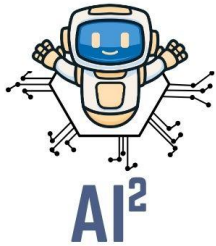




AI²

Prototype Presentation



Team Copper
Spring 2026



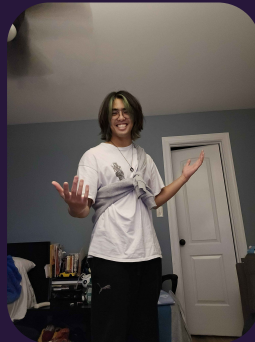
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Meet The Team



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Project Lead



Julian Diaz
Back-End Developer



Lynda Salinas Ascanova
Webmaster/Back-End Developer



Savannah Todd
Webmaster/Front-End Developer



Tommy Fuller
Full-Stack Developer



Craig Grubb
Software Developer and Database



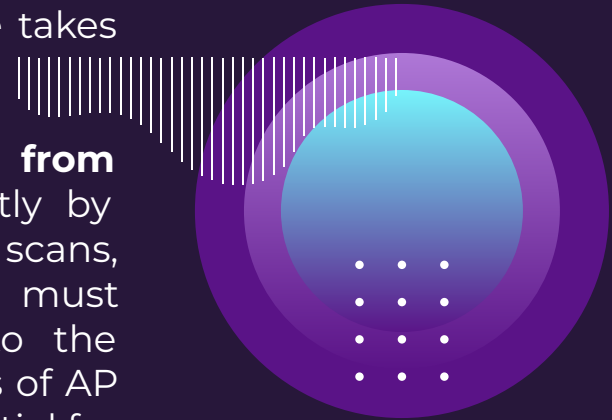
Michael Nimitz
Software Developer and Database



Quin Elson
Front-End Developer

Problem Statement

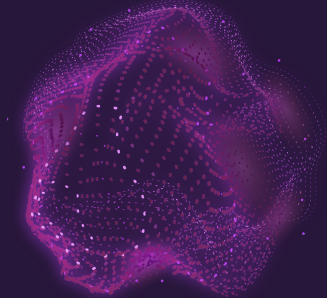
- **Accounts Payable (AP) manual processing** is costly and slow. Between labor costs, printing and mailing expenses, and accounting for errors, each manually processed invoice can cost between \$12 and \$40, which adds up across thousands of invoices. A manually processed invoice takes an average of 14.6 days to process.
- **Every year, ADS receives over 150,000 invoices from about 3,000 suppliers.** These invoices arrive mostly by email and come in many different formats (PDFs, scans, spreadsheets, etc.). The AP team, only 6 people, must manually review each invoice and compare it to the company's Purchase Order. This magnifies the issues of AP manual processing, leading to a high workload, potential for errors, delays, and difficulty with taking in more work.



Problem Characteristics



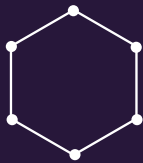
- ◆ **Excessive Labor Hours:** Labor accounts for 62% of total AP processing costs, mostly consisting of repetitive checking rather than value-added work
- ◆ **High Error Potential:** 39% of invoices contain errors, and $\frac{1}{3}$ of businesses suffer from making duplicate payments
- ◆ **Delays:** Invoices take an average of 14.6 days to process, payments slowed down due to backlogs, leading to missed discounts and late fees
- ◆ **Scalability:** Already high pressure on the AP team makes it difficult for the company to take on additional clients, limiting financial growth



Who is Affected

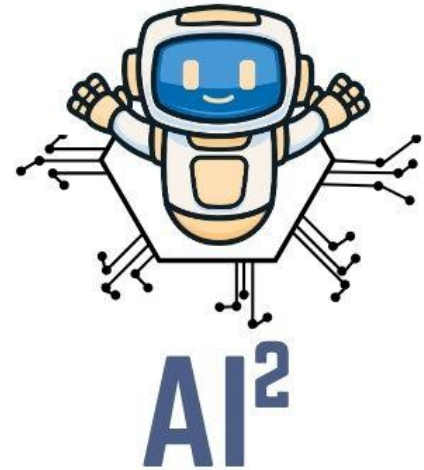


- **Users**
 - ◆ ADS Accounts Payable team, AP manager, and Finance/Accounting leadership are all looking to automate simple, common invoices.
- **Customers**
 - ◆ ADS, the company itself would be willing to provide compensation for a satisfactory product.
- **Stakeholders**
 - ◆ Vendors connected with ADS, ADS Finance, and ADS executives would all experience shorter turnaround times and more effective use of labor with automation of common, simple invoices.



Our Solution: AI²

- ◆ AI² is a web-based platform that helps organizations manage high volumes of invoices with greater speed, accuracy, and transparency.
- ◆ Designed to integrate into existing financial workflows, it streamlines repetitive processing, prioritizes exceptions, and continuously adapts to diverse invoice formats across industries.
- ◆ By reducing manual workload while preserving oversight, AI² enables faster payments, fewer errors, and stronger financial compliance.



AI² and ADS

- ◆ For ADS specifically, AI² would relieve pressure on a small Accounts Payable team that currently faces over 600 invoices per day. The pressure will continue to grow as the company scales, leading to mistakes like mismatched data or “overreceipts”.
- ◆ By automating intake and matching, while routing edge cases for staff review, the system reduces backlogs and errors without removing human oversight.
- ◆ This allows ADS to accelerate payment cycles, strengthen supplier relationships, and improve overall financial health — outcomes that mirror the benefits other organizations can expect across the industry.



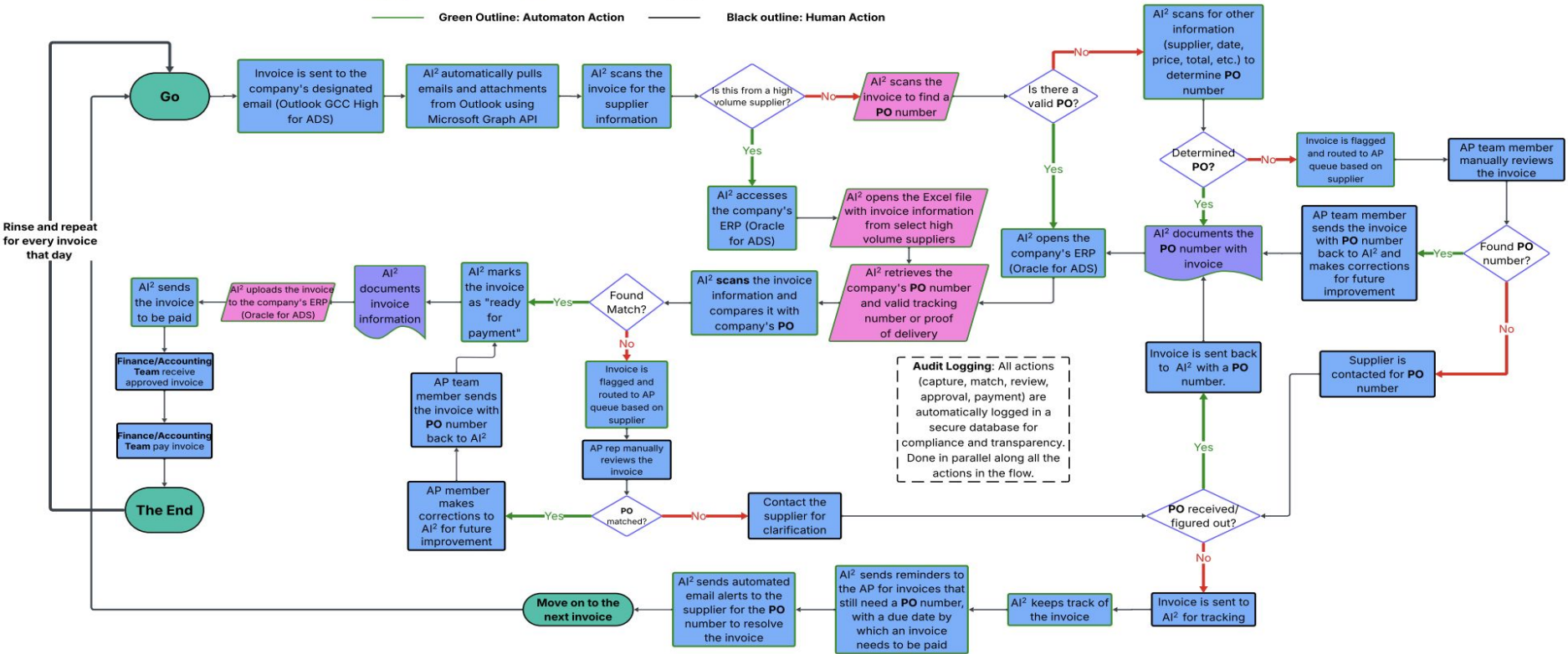
Solution Characteristics

- ◆ **Efficiency – Automated Invoice Capture and Organization**
 - AI² automatically pulls invoices from Outlook using Microsoft Graph API, eliminating manual file handling.
- ◆ **Accuracy – Smart and Fast Matching**
 - AI² performs structured invoice–PO matching with confidence scoring so routine matches can be automated while uncertain ones are flagged.
- ◆ **Adaptability – Learning from Corrections**
 - The model learns from staff corrections, supported by anonymized training data and controlled retraining workflows.
- ◆ **Transparency – Auto Logging and Compliance**
 - Every system and user action is captured in audit logs, which aligns with requirements under FedRAMP and CMMC.
- ◆ **Scalability – Beyond just ADS**
 - AI² is built to handle more vendors, formats, and higher invoice volume as ADS, and other organizations, continue to grow.

Solution Process Flow

Diagram Key

- █ Tasks/Steps
- Start/End
- ▭ Data(I/O)
- ▭ Document
- ◇ Decision
- Parallel Steps
- Green Outline: Automaton Action
- Black Outline: Human Action



Development Tools

- ◆ Communication: Discord
- ◆ IDE: VSCode
- ◆ Version Control: Github
- ◆ Website: Github Pages
- ◆ Team Management: Jira
- ◆ Backend: Python
 - Fast prototype, ML supported tools and technologies, readable
- ◆ Framework: Flask
- ◆ Frontend:
 - Tailwind CSS and Jinja
- ◆ Architecture: Monolithic
- ◆ Story and/or Issue Tracker: Jira integrated with Github

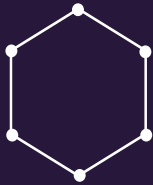


Github Repository

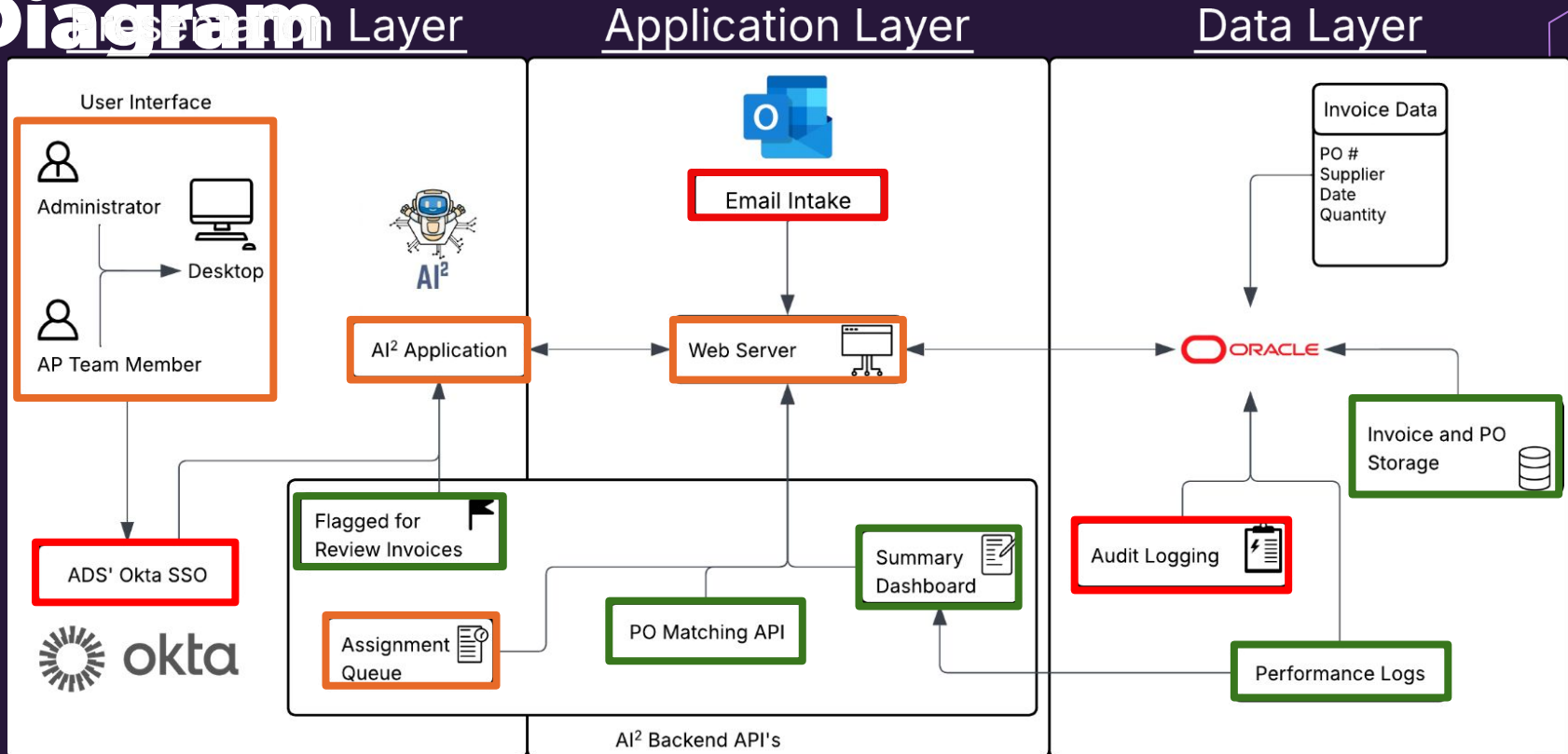


◆ Team Copper Repository

- All team members, Dr. Hosni, and Mentor Jacob Cook should have repository access.
- Initial skeleton is present.
- Branches are now being added through connecting tasks in Jira.



Major Functional Components Diagram



Fully Implemented

Partially Implemented

Eliminated

Changes to scope, development, implementation, etc.

- ◆ Addition of Flask-SQLAlchemy for database operations
- ◆ Implementation of Tailwind CSS for frontend development
- ◆ More active use of Jira for team organization, connected to Github
- ◆ Eliminated most security/system integration features (such as Okta SSO) due to time limitations, lack of security clearance, and compliance regulations

User Risks

Risk

- ◆ **R1:** Unassigned Low Confidence Invoices
- ◆ **R2:** Workflow disruption during transition
- ◆ **R3:** Delayed Human Review of Flagged Items
- ◆ **R4:** Overdependence on automation
- ◆ **R5:** Resistance or Misuse of the System

Mitigation

- ◆ **M1:** Flagged invoices routed to manual review queue
- ◆ **M2:** System integrates with existing ADS tools
- ◆ **M3:** Offering real-time ingestion, auto-flagging, and reminders to the AP team
- ◆ **M4:** Confidence scoring will trigger human review automatically
- ◆ **M5:** Offering transparent logs to build trust and accountability

Impact

		Very Low	Low	Medium	High	Very High
Likelihood	Very High				R1	
	High			R2, R4	R3	
	Medium		M2	M3		R5
	Low		M4	M1, M5		
	Very Low					

Customer Risks

Risk

- ◆ **R1:** Compromised financial accuracy from incorrect invoice matching
- ◆ **R2:** Delayed Return on Investment (ROI) due to transition disruptions
- ◆ **R3:** Strain on vendor relationships from missed or late payments

Mitigation

- ◆ **M1:** Confidence scoring will trigger human corrections before payment for improved accuracy
- ◆ **M2:** Integrate with existing ADS tools and workflows with minimal disruption to accelerate adoption and ROI realization
- ◆ **M3:** Offering automated intake and supplier alerts

Impact

		Very Low	Low	Medium	High	Very High
Likelihood	Very High			R1		
	High			R2		
	Medium		M1, M2			R3
	Low			M3		
	Very Low					

Technical Risks

Risk

- ◆ **R1:** OCR and parsing errors
- ◆ **R2:** Low accuracy for edge cases
- ◆ **R3:** Integration failures
- ◆ **R4:** Model drift
- ◆ **R5:** AI black box
- ◆ **R6:** Excessive manual corrections

Mitigation

- ◆ **M1:** Multi-engine OCR with validation rules
- ◆ **M2:** Confidence ratings with human reviews
- ◆ **M3:** Robust APIs with sandbox testing
- ◆ **M4:** Continuous retraining and KPI monitoring
- ◆ **M5:** Include confidence scores and extracted source fields in logging
- ◆ **M6:** Progressive machine learning

Impact

	Very Low	Low	Medium	High	Very High
Very High					
High		R2	R6	R1 R3	
Medium			M3 R4		
Low	M2	M4 M6	M1 R5		
Very Low		M5			

Security Risks

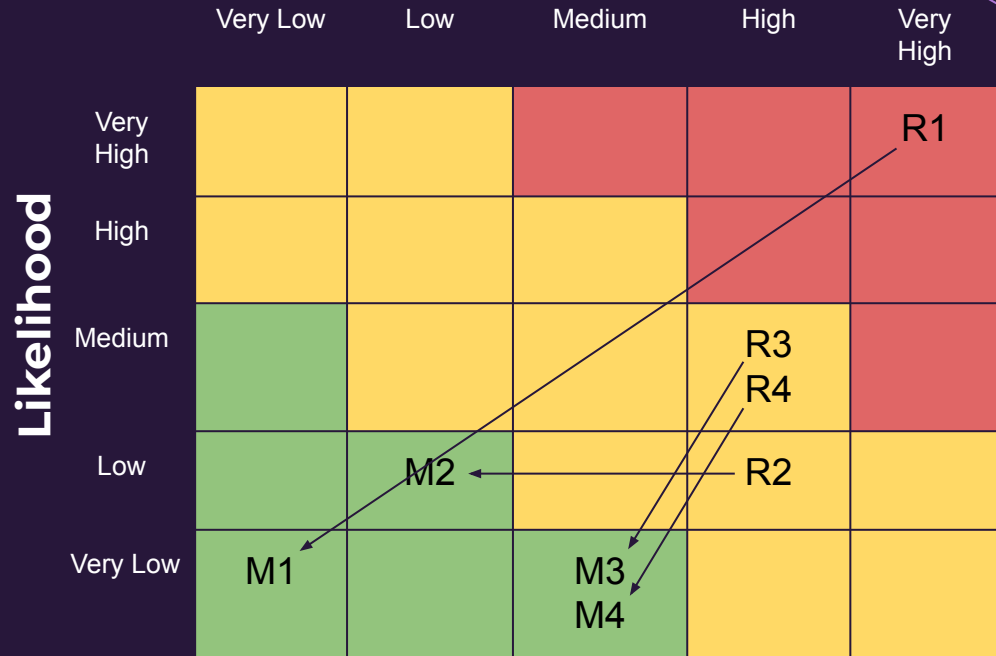
Risk

- ◆ **R1:** Data confidentiality
- ◆ **R2:** Data residency
- ◆ **R3:** Supply chain attacks
- ◆ **R4:** Model poisoning

Mitigation

- ◆ **M1:** End-to-end encryption, MFA, and role-based security groups
- ◆ **M2:** Customer hosting
- ◆ **M3:** Malware scanning of libraries
- ◆ **M4:** Separate production and training data with data validation before retraining

Impact



Legal Risks

Risk

- ◆ **R1:** Machine-generated incorrect results leading to financial loss
- ◆ **R2:** Clients' financial data may become vulnerable
- ◆ **R3:** Noncompliance with financial record-keeping laws can result in fines or failed audits

Mitigation

- ◆ **M1:** Keep human-in-the-loop for low-confidence cases, maintain full audit trails
- ◆ **M2:** Encrypt all data at rest and in transit, enforce role-based access
- ◆ **M3:** Implement automated record retention, ensure immutable audit logs, conduct regular compliance checks

		Impact				
		Very Low	Low	Medium	High	Very High
Likelihood	Very High					
	High				R2	
	Medium	M2		R3	R1	
	Low		M1			
	Very Low	M3				

Issues/Concerns

Currently, the team feels pretty confident/content with the progress made from the start of the semester to this demo.

Looking into the future however there were a few issues we've yet to tackle.

- ◆ Determining what AI model to use
- ◆ Implementation of AI with matching logic
- ◆ Utilization of AI
- ◆ Time constraints
- ◆ Adaptations to parsing logic

RWP vs Prototype vs Current Plan

Feature	Real World Product	Prototype	Current Plan
Outlook Email Integration (Graph API)	Fully Functional	Eliminated	Eliminated
Invoice Parser and Data Extractor	Fully Functional	Fully Functional	Fully Functional
Automated PO Matching Algorithm	Fully Functional	Partially Functional	Fully Functional
Invoice Quality Analyzer	Fully Functional	Not Implemented	Fully Functional
Queue Assigning and Routing	Fully Functional	Not Implemented	Partially Functional
Queue Assignment Dashboard	Fully Functional	Not Implemented	Partially Functional

RWP vs Prototype vs Current Plan

Feature	Real World Product	Prototype	Current Plan
Model Training and Deployment Pipeline	Fully Functional	Not Implemented	Fully Functional
Model Version Control	Fully Functional	Not Implemented	Fully Functional
AI Performance Dashboard	Fully Functional	Not Implemented	Fully Functional
Invoice Quality Analyzer	Fully Functional	Not Implemented	Fully Functional
Invoice Data Anonymization Pipeline	Fully Functional	Eliminated	Eliminated

RWP vs Prototype vs Current Plan

Feature	Real World Product	Prototype	Current Plan
Admin Configuration Dashboard	Fully Functional	Not Implemented	Partially Functional
System Health and Performance Dashboard	Fully Functional	Not Implemented	Partially Functional
Error Logging and Recovery Module	Fully Functional	Not Implemented	Fully Functional
Admin System Alert Notifications	Fully Functional	Not Implemented	Partially Functional

RWP vs Prototype vs Current Plan

Feature	Real World Product	Prototype	Current Plan
Automated Supplier Notifications	Fully Functional	Eliminated	Eliminated
Automated AP Team Reminders	Fully Functional	Not Implemented	Partially Functional
AI Confidence Scoring Module	Fully Functional	Not Implemented	Fully Functional
Continuous Learning From Human Interaction	Fully Functional	Not Implemented	Fully Functional
Human Review Panel	Fully Functional	Not Implemented	Fully Functional

RWP vs Prototype vs Current Plan

Feature	Real World Product	Prototype	Current Plan
Encryption Verification Tool	Partially Functional	Eliminated	Eliminated
AWS GovCloud Integration Tool	Fully Functional	Eliminated	Eliminated
Audit Log Management System	Fully Functional	Not Implemented	Partially Functional
Compliance Changelog System	Fully Functional	Not Implemented	Partially Functional
Auto Generated Compliance Report	Fully Functional	Eliminated	Eliminated
Compliance Regulations Monitoring Tool	Fully Functional	Eliminated	Eliminated

RWP vs Prototype vs Current Plan

Feature	Real World Product	Prototype	Current Plan
Okta SSO Authentication Module	Fully Functional	Eliminated	Eliminated
Alteryx-Oracle Integration Module	Fully Functional	Eliminated	Eliminated
Integration Monitoring Dashboard	Fully Functional	Eliminated	Eliminated

User Stories to Features

User Story	Feature	User Role
As an Administrator, I want AI ² to authenticate users through ADS's Okta SSO system so that access is secure, compliant, and consistent with ADS's existing authentication policies.	Okta SSO Module	Administrator
As an Administrator, I want to automatically assign incoming invoices to AP team queues based on supplier names.	Queue Assignment Dashboard	Administrator
As an Administrator, I want to change the confidence score threshold so that AI ² routes invoices appropriately.	Admin Configuration Dashboard	Administrator
As an Administrator, I want to configure the Graph API connection so that AI ² can pull invoice attachments from Outlook.	Outlook Email Integration (Graph API)	Administrator

User Stories to Features Cont.

User Story	Feature	User Role
As an Administrator, I want to review the status of the Graph API connection so that I know when email intake fails.	Integration Monitoring Dashboard	Administrator
As an Administrator, I want to modify notification settings so that AP staff receive alerts relevant to their workflow.	Admin Configuration Dashboard	Administrator
As an Administrator, I want to view AI ² 's match accuracy metrics so that I can evaluate model performance.	System Health and Performance Dashboard	Administrator
As an Administrator, I want to configure the Alteryx endpoint so that AI ² can send matched invoice data to ADS systems.	Alteryx-Oracle Integration Module	Administrator

User Stories to Features Cont.

User Story	Feature	User Role
As an Administrator, I want AI ² to store logs securely so that we remain compliant with CMMC/FedRAMP.	Compliance Regulations Monitoring Tool	Administrator
As an Administrator, I want all system actions logged so that changes are traceable during audits.	Audit Log Management System	Administrator
As an Administrator, I want AI ² to alert me when PO-matching breaks or errors occur so that I can investigate issues quickly.	Error Logging and Recovery Module	Administrator
As an Administrator, I want AI ² to notify me when email intake fails so that invoices are not missed.	Admin System Alert Notifications	Administrator
As an AP Team Member, I want AI ² to flag invoices with low confidence scores and display the potential mismatched fields so that I can correct the data and help the AI learn over time.	AI Confidence Scoring Module	AP Team Member

User Stories to Features Cont.

User Story	Feature	User Role
As an AP Team Member, I want to view all invoices from my assigned suppliers in a personalized queue so that I can easily track, review, and complete my assigned workload.	Queue Assignment Dashboard	AP Team Member
As an AP Team Member, I want AI ² to automatically pull invoice emails and attachments from the shared Outlook inbox using the Microsoft Graph API so that I can see all new invoices in one central dashboard.	Human Review Panel	AP Team Member
As a Compliance Officer, I want to ensure that invoice and user data is encrypted both at rest and in transit so that I can ensure AI ² maintains required data protection standards under CMMC and FedRamp.	Encryption Verification Tool	Compliance Officer

User Stories to Features Cont.

User Story	Feature	User Role
As a Compliance Officer, I want to perform routine reviews of AI ² 's audit logs so that I can confirm that AI ² is adhering to internal policies.	Audit Log Management System	Compliance Officer
As a Compliance Officer, I want to verify that invoice handling adheres to federal and state regulatory requirements and guidelines (including but not limited to FedRamp and DOD RMF) so that I can ensure that AI ² is maintaining compliance.	Compliance Regulations Monitoring Tool	Compliance Officer
As a Compliance Officer, I want to generate periodic compliance and audit reports summarizing access, invoice activity and data handling practices, so that I can document adherence to regulatory requirements.	Auto Generated Compliance Report	Compliance Officer

User Stories to Features Cont.

User Story	Feature	User Role
As a Compliance Officer, I want AI ² to log all configuration or policy changes made by the administrators, so that I can ensure accountability and verify that no unauthorized adjustments compromise compliance.	Auto Generated Compliance Report	Compliance Officer
As an AI Model Trainer, I want to be informed of the quality of the invoice matches so that I can improve the algorithm's performance.	Invoice Quality Analyzer	AI Model Trainer
As an AI Model Trainer, I want to clean and anonymize invoice data so that I can use it for retraining purposes.	Invoice Data Anonymization Pipeline	AI Model Trainer
As an AI Model Trainer, I want to collaborate with administrators so that I can guarantee that model updates remain compliant with data governance rules.	Compliance Regulations Monitoring Tool	AI Model Trainer

User Stories to Features Cont.

User Story	Feature	User Role
As an AI Model Trainer, I want to adjust model parameters and/or retraining schedules so that I can help AI ² improve accuracy.	Model Training and Deployment Pipeline	AI Model Trainer
As an AI Model Trainer, I want to monitor model accuracy so that I can assess AI ² is meeting internal standards.	Model Version Control	AI Model Trainer
As an AI Model Trainer, I want to periodically assess AI ² 's outputs so that I can evaluate how they align with company expectations and predetermined metrics.	AI Performance Dashboard	AI Model Trainer
As an AI Model Trainer, I want to retrain AI ² so that I can continuously improve upon AI ² 's pattern recognition.	Model Training and Deployment Pipeline	AI Model Trainer

User Stories to Tasks

User Story	Task	User Role
As an Administrator, I want AI ² to authenticate users through ADS's Okta SSO system so that access is secure, compliant, and consistent with ADS's existing authentication policies.	Create a Okta SSO Module	Administrator
As an Administrator, I want to automatically assign incoming invoices to AP team queues based on supplier names.	Create a Queue Assignment Dashboard	Administrator
As an Administrator, I want to change the confidence score threshold so that AI ² routes invoices appropriately.	Create a admin configuration dashboard	Administrator
As an Administrator, I want to configure the Graph API connection so that AI ² can pull invoice attachments from Outlook.	Create a Graph API to connect to Outlook GCC High	Administrator

User Stories to Task Cont.

User Story	Task	User Role
As an Administrator, I want to review the status of the Graph API connection so that I know when email intake fails.	View API connection status	Administrator
As an Administrator, I want to modify notification settings so that AP staff receive alerts relevant to their workflow.	Create notification settings to receive alerts	Administrator
As an Administrator, I want to view AI ² 's match accuracy metrics so that I can evaluate model performance.	Create and View System Health and Performance Dashboard	Administrator
As an Administrator, I want to configure the Alteryx endpoint so that AI ² can send matched invoice data to ADS systems.	Create a Alteryx-Oracle connection	Administrator

User Stories to Tasks Cont.

User Story	Task	User Role
As an Administrator, I want AI ² to store logs securely so that we remain compliant with CMMC/FedRAMP.	Create Audit Logs	Administrator
As an Administrator, I want all system actions logged so that changes are traceable during audits.	View and edit all system actions	Administrator
As an Administrator, I want AI ² to alert me when PO-matching breaks or errors occur so that I can investigate issues quickly.	View alerts on PO-matching errors	Administrator
As an Administrator, I want AI ² to notify me when email intake fails so that invoices are not missed.	Send email alerts	Administrator
As an AP Team Member, I want AI ² to flag invoices with low confidence scores and display the potential mismatched fields so that I can correct the data and help the AI learn over time.	Create a confidence score	AP Team Member

User Stories to Tasks Cont.

User Story	Task	User Role
As an AP Team Member, I want to view all invoices from my assigned suppliers in a personalized queue so that I can easily track, review, and complete my assigned workload.	Track, view, an resolve and invoice	AP Team Member
As an AP Team Member, I want AI ² to automatically pull invoice emails and attachments from the shared Outlook inbox using the Microsoft Graph API so that I can see all new invoices in one central dashboard.	Pull all invoices in one central dashboard	AP Team Member
As a Compliance Officer, I want to ensure that invoice and user data is encrypted both at rest and in transit so that I can ensure AI ² maintains required data protection standards under CMMC and FedRamp.	Encrypt the data with AWS encryption tools	Compliance Officer

User Stories to Task Cont.

User Story	Task	User Role
As a Compliance Officer, I want to perform routine reviews of AI ² 's audit logs so that I can confirm that AI ² is adhering to internal policies.	View audit logs	Compliance Officer
As a Compliance Officer, I want to verify that invoice handling adheres to federal and state regulatory requirements and guidelines (including but not limited to FedRamp and DOD RMF) so that I can ensure that AI ² is maintaining compliance.	Review invoice handling for compliance	Compliance Officer
As a Compliance Officer, I want to generate periodic compliance and audit reports summarizing access, invoice activity and data handling practices, so that I can document adherence to regulatory requirements.	Create a compliance and audit reports	Compliance Officer

User Stories to Tasks Cont.

User Story	Task	User Role
As a Compliance Officer, I want AI ² to log all configuration or policy changes made by the administrators, so that I can ensure accountability and verify that no unauthorized adjustments compromise compliance.	Review and edit configuration and policy changes	Compliance Officer
As an AI Model Trainer, I want to be informed of the quality of the invoice matches so that I can improve the algorithm's performance.	View the quality of the invoices	AI Model Trainer
As an AI Model Trainer, I want to clean and anonymize invoice data so that I can use it for retraining purposes.	Create anonymous training data	AI Model Trainer
As an AI Model Trainer, I want to collaborate with administrators so that I can guarantee that model updates remain compliant with data governance rules.	Review model compliance	AI Model Trainer

User Stories to Tasks Cont.

User Story	Task	User Role
As an AI Model Trainer, I want to adjust model parameters and/or retraining schedules so that I can help AI ² improve accuracy.	Edit model parameters	AI Model Trainer
As an AI Model Trainer, I want to monitor model accuracy so that I can assess AI ² is meeting internal standards.	View model accuracy	AI Model Trainer
As an AI Model Trainer, I want to periodically assess AI ² 's outputs so that I can evaluate how they align with company expectations and predetermined metrics.	View model outputs	AI Model Trainer
As an AI Model Trainer, I want to retrain AI ² so that I can continuously improve upon AI ² 's pattern recognition.	Retrain the model to improve pattern recognition	AI Model Trainer

Prototype Sprint Breakdown

2/11 - 2/25

1. Invoice Intake

- Invoice and PO generation
- Show invoice and PO in UI
- Basic invoice and PO data fields
- Simple PO number matching

2/25 - 3/11

2. Matching + Queue

- Basic matching rules
- ADS Data integration
- Allow corrections with match to PO
- Enhanced Role separation
- Begin AI exploration

3/11 - 3/25

3. Configurations + Confidence Scoring:

- Confidence thresholds
- AI based confidence scoring
- Admin Configuration Dashboard
- Notifications
- User preferences
- Sort UI on invoice lists

3/25 - 4/8

4. AI Training + Accuracy

- Model retraining pipeline
- Confidence metrics over time on Dashboard
- AP team members actions influencing training

4/8 - 4/22

5. Reports

- Performance dashboard
- System summaries
- Error logging
- Invoice Quality Analyzer
- Final UI polish

Next Steps (Tommy)

- ◆ Generate synthetic data based off of ADS data to train AI model
- ◆ Implement new solutions to pdf parsing to account for pdf variation
- ◆ Create visible criteria for the confidence scoring
- ◆ Keep frontend visibility of relevant database updates

Next Steps (Craig)

- ◆ Create join table between users and vendors tables so that different vendors can be assigned to an AP team member.
- ◆ Add date_received and due_date columns to invoice table.
- ◆ Map vendor ID to vendor in the AP team member dashboards.
- ◆ Create user-specific logic in AP team member dashboards.
- ◆ Mock up invoice-PO matching UI.

Next Steps (Savannah)

- ◆ Adjust Model Trainer Dashboard display as necessary to align with our model as we continue to build it.
- ◆ Add functionality to Analytics section as model building progresses.
- ◆ Continue to switch to Jinja macros to increase readability in html files.

Next Steps (Quin)

- ◆ Build out Admin Configuration Dashboard
- ◆ Add graph to analytics tab to match with the original UI mockup
- ◆ Add filter/sort UI on invoice lists (vendor search, date filed, etc) inside scroll box

Next Steps (Lynda)

- ◆ Research LiquidAI and determine if it is a good fit for the project in terms of parsing logic.
- ◆ Adjustments to be made to include the reading and parsing of ADS provided data.
- ◆ Refinements to be made based off ADS data to the parsing.

Next Steps (Michael)

- ◆ Alter the database schema as needed to make use of the ADS training data
- ◆ Work on data analytics aspects such as confidence intervals
- ◆ Write necessary queries in SQLAlchemy based on the new data

Next Steps (Julian)

- ◆ Refine parsing logic based off of ADS dummy data
- ◆ Research potential AI models for integration for Sprint 2
- ◆ Adapt dummy_data generation of ADS' to increase sample size

Next Steps (Dusan)

- ◆ Update the database models to reflect the sample data provided by ADS.
- ◆ Update the database population, so that tables such as vendors, email addresses, invoices, purchase orders and others are updated accordingly.
- ◆ Add a new event table to the database, keeping track of invoices processing and whether a match was successful.
- ◆ Start integrating AI and machine learning into the matching logic.
 - Add a confidence score metric as a measure of how good a match is, and use it for the purposes of identifying invoices that need more tuning for the model.
- ◆ Research into technologies like Liquid AI and LM studio, and see how they can be potentially integrated into the prototype.

Glossary

- ◆ **Atlantic Diving Supply (ADS):** An American federal contractor company that researches and provides equipments and logistics solutions to the Department of Defense, Federal Agencies, and First Responders.
- ◆ **Purchase Order:** The order list ADS sends to suppliers.
- ◆ **Invoice:** A list of goods sent or services provided, with a statement of the sum due for these; a bill.
- ◆ **Accounts Payable (AP):** The amount still outstanding that a business owes for goods and services purchased on credit, which typically comes due at intervals of 30, 45, 60, or 90 days, depending on the repayment terms.
- ◆ **Oracle:** The system of record for ADS.
- ◆ **APEX:** A strongly typed, object-oriented programming language that Salesforce developers use to execute flow and transaction control statements on the Salesforce platform.
- ◆ **Salesforce:** A robust Customer Relationship Management (CRM) platform allowing businesses to manage their customer relationships efficiently
- ◆ **Supplier:** A person or organization that provides something needed, such as a product or service.
- ◆ **Vendor:** A person or company offering something for sale.

References

1. ADS Pitch Document Sample
2. Tamaro, R. (2025, March 4). *The Hidden Costs of Manual Accounts Payable and How Automation Solves Them - CASO Document Management*. CASO Document Management. <https://caso.com/2025/03/the-hidden-costs-of-manual-accounts-payable-and-how-automation-solves-them/>
3. *AI Invoice Processing Benchmarks 2025 - Accuracy, Speed, And Cost Comparison*. (2025, September 9). Parseur. Retrieved September 27, 2025 from [https://parseur.com/blog/ai-invoice-processing-benchmarks#:~:text=Speed%20\(according%20to%20SuperAGI\),automation%20drives%20significant%20productivity%20gains](https://parseur.com/blog/ai-invoice-processing-benchmarks#:~:text=Speed%20(according%20to%20SuperAGI),automation%20drives%20significant%20productivity%20gains)
4. Jex, S. (2024, September 24). *Accounts Payable Automation by the Numbers: 10 Statistics to Know*. Quadient. <https://www.quadient.com/en/blog/ap-automation-by-the-numbers-10-statistics-to-know>
5. *Avalanche of E-mail Coming Out of the Computer, Overwhelming the Person*.(n.d.) 123RF. Retrieved September 29, 2025, from https://www.123rf.com/photo_176621030_avalanche-of-e-mail-coming-out-of-the-computer-overwhelming-a-person-eps-8-vector-illustration.html
6. *Gartner Survey Shows That a Third of Accountants Make Several Financial Errors Per Week Due to Capacity Constraints*. (2024, February 21). Gartner. <https://www.gartner.com/en/newsroom/press-releases/2024-02-21-gartner-survey-shows-that-a-third-of-accountants-make-several-error-per-weeo-due-to-capacity-constraints>
7. *Accounts Payable Automation Trends: Key Insights and Latest Statistics*. (n.d.) Kefron. Retrieved October 6, 2025, from <https://kefron.com/2025/02/accounts-payable-automation-trends-key-insights-and-latest-statistics/?switch=us>