Exploring leading trends and cutting-edge technology in the AP Automation Space

Presenter:

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The University of Texas System Alliance Intelligent Automation Services

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Agenda

- Introductions
- What is Intelligent Automation (IA)
- Automating Accounts Payable

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The University of Texas System Alliance Intelligent Automation Services (IAS)

About the Program

- An initiative that began in 2018, aimed to focus on automating manual, repetitive, rules-based tasks across UT System institutions with the following objectives;
  - Cost Reduction/Revenue Increase
  - Productivity Enhancement/Error Reduction
  - Risk Mitigation/Compliance
  - Improved Customer Service
  - Enhanced Employee Satisfaction
  - Better Decision-Making Information

Program Management

- UT System Office of Collaborative Business Services / Intelligent Automation Services Group

Governance

- RPA Operating Committee: Business and IT Representation from each UT System Institution
- Executive Operating Committee: Chief Business Officers from each UT System Institution

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The University of Texas System Alliance Intelligent Automation Services (IAS) - Continued

- Automation Design and Development

- Hosting and Monitoring Services

- Business Process Analysis for Automation

- Consulting Services

- Webinar & Education Programs

Intelligent Automation

Intelligent Automation combines RPA and AI technologies to automate a process including making complex Decisions
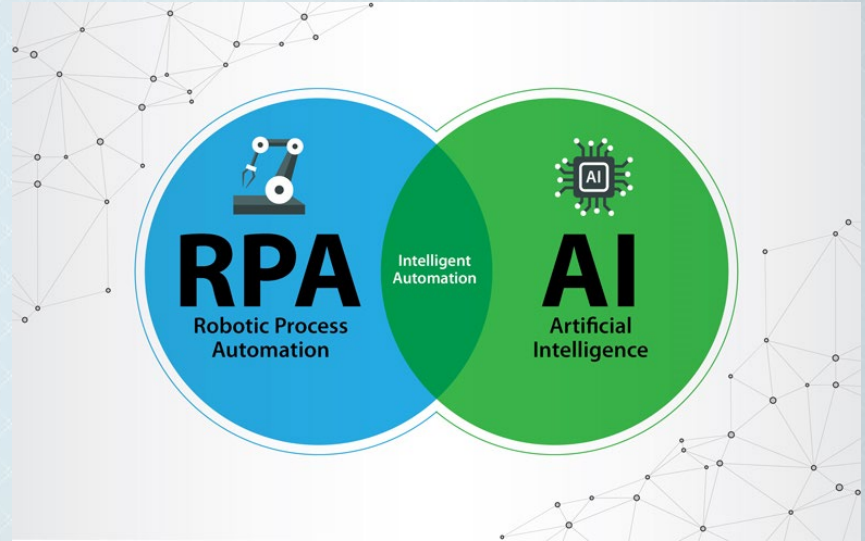
Benefits of Automation

1. **Improved Efficiency**: Automation streamlines processes, leading to higher production rates.
2. **Consistent Output**: When machines take over, they don't have off. That means better product quality because consistency becomes their middle name.
3. **Reduced Manual Tasks**: Say goodbye to mind-numbing data entry. Automation handles those repetitive chores, freeing up your team to tackle more meaningful work.
4. **Efficient Use of Resources**: Software doesn't tire out or need coffee refills. By automating tasks, you optimize resource utilization—both time and cost.
5. **Reduced Human Involvement**: Automation steps in where it's risky for humans. Think sensitive information or monotonous tasks that can lead to burnout.
6. **Maximized Profits**: When efficiency goes up and costs go down, guess what happens?
7. **Superior Service:** Quick and accurate Payments improved vendor relations.
8. **Measurable Goals**: With automation, you can track everything. Metrics, KPIs, performance—you name it.

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Robotic Process Automation Described

RPA?

RPA is the application of software "robots," not physical robots, that mimics human action and connects multiple systems through automation <u>without changing the existing IT landscape</u>

RPA is integrated in an existing IT infrastructure

As a change of the existing IT landscape is not required, a high level of automation can be reached without major effort. RPA uses established control mechanisms and can communicate with all systems. Therefore, no interface has to be created and maintained.

RPA is a software

RPA is a computer software that runs repetitive, rule-based processes. The software is trained based on functional specifications and can be adjusted at any time.
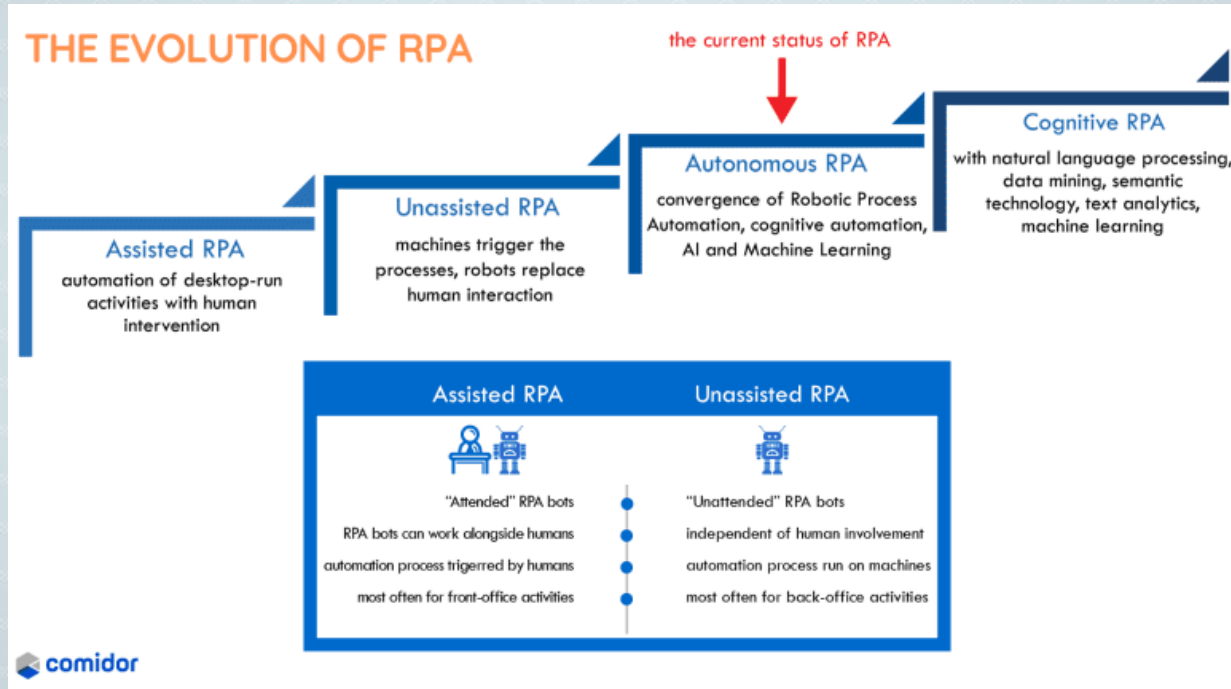
RPA simulates an employee

The software robot can access diverse applications with standard authentication (e.g., an ID and password). The robot can gather information or change data. Consequently, many business and administrative tasks can be fully automated.

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Evolution of Robotic Process Automation

IA in transforming business processes

This powerful synergy automates mundane tasks, improves accuracy, reduces cost, and enables advanced data analysis and decision-making.

Intelligent automation empowers organizations to streamline processes, enhance customer experiences, and drive innovation across various industries.

Tools: RPA
Good for: Entering Data into systems, Processing Data in Excels, Sending Emails, Comparing Data Sets

Work

Tools: Classic "AI"
Good For : Decision Control, Predictive Analytics, Big Data

Think

Tools: OCR, Intelligent Document Processing (IDP)
Good For: Invoice and Transcript Data Extraction, Keyword-based recognitions, Variable Format Processing
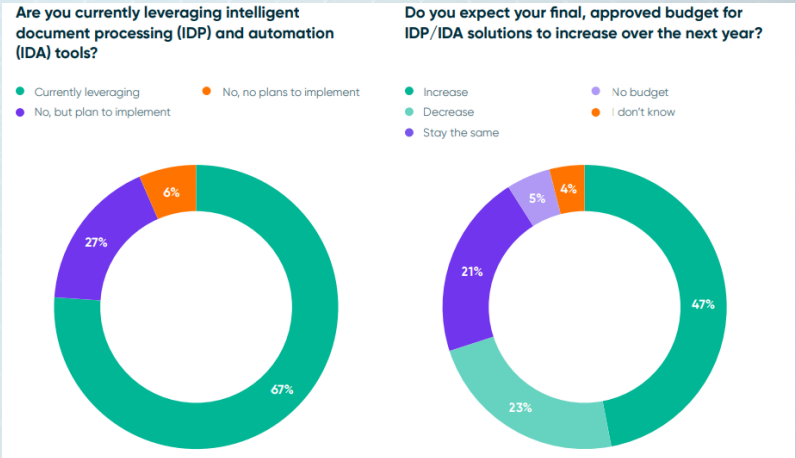
Read

Talk

Tools: Chatbots, Virtual Agents
Good for: Student Engagements, Student Support, Text and Voice Enablement, Sentiment Analysis

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Intelligent Document Processing (IDP)

Intelligent Document Processing (IDP) is a technology that combines Optical Character Recognition (OCR) and Artificial Intelligence (AI) to automate and digitize structured, semi-structured and unstructured data from various sources such as PDFs, word processing files, online forms, and digitized document images. IDP scans, reads, extracts, categorizes, and organizes meaningful information into accessible formats from large streams of data.

OCR is primarily focused on recognizing characters and converting images/pictures of text into editable text. IDP takes this a step further by integrating OCR technology along with other intelligent processing techniques.


Are you currently leveraging intelligent document processing (IDP) and automation (IDA) tools?

- Currently leveraging
- No, but plan to implement
- No, no plans to implement

67%, 27%, 6%

Do you expect your final, approved budget for IDP/IDA solutions to increase over the next year?

- Increase
- Decrease
- Stay the same
- No budget
- I don't know

47%, 23%, 21%, 5%, 4%

Source: https://www.intelligentautomation.network

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Intelligent Document Processing (IDP).. cont.

IDP can help automate document-based processes, which can lead to benefits such as: **faster processing, reduced processing costs and scalability.** Some examples of documents that can be analyzed by IDP solutions include:

IDP solutions can achieve high data extraction accuracy and often offer the option to include Human-in-the-Loop (HITL) functionality. This allows humans to verify and correct data when the IDP solution has low confidence.

Unstructured Data → Intelligent Document Processing → Structured Data
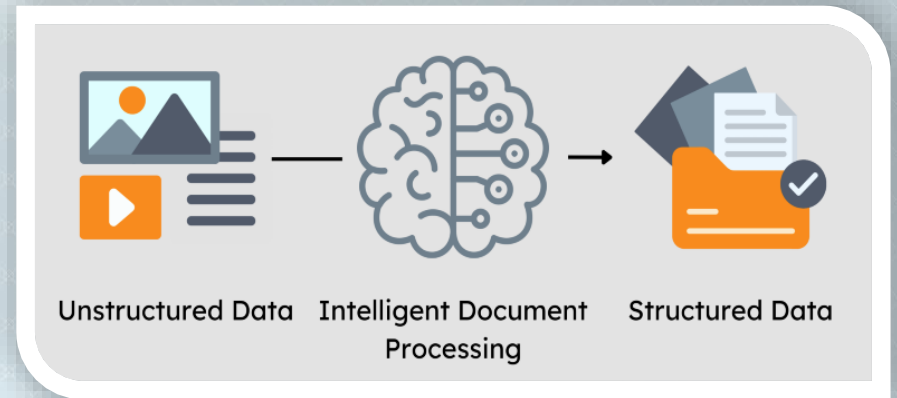
- Invoices
- Receipts
- College Transcripts
- Loan Applications

- Pay-slips
- Contracts
- ID cards
- Emails

- PDFs
- Forms or applications (paper or online)

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Trained Models

Base Models

Base models are like the sturdy foundation of an AI house. They're pre-trained on massive amounts of data—billions of images or text samples—across diverse subjects and styles. Think of them as the College degree of the AI world, having seen it all. These models are expensive to create and require a lot of expertise.

Fine-Tuning Models

- Now, let's talk about fine-tuning. Imagine you have a base model, and you want it to specialize in something specific. Fine-tuning is like giving that model a targeted crash course. Here's how it works:

Base Model + Specialized Training: Take a base model and train it further on a narrower dataset. For instance, you could fine-tune it using only invoice images. The result? A fine-tuned model that excels at understanding invoices specific to your lines of business.

A fine tuning of a model is like adding Context and require much smaller and specific data sets rather than the billions of data points needed for a base model.

1. **Example** : A Base Model of an Accounts Payable Business + Trained with Invoices for Medical Services

Cost of Manual AP

- The Average AP Clerk Makes $23/hr. (Salary.com)

- 75%-80% of AP Departments Still Report Using Paper Checks (Pymnts.com)

- Average Cost of Manual Invoices is $15 per invoice. (Salary.com)

- Average Processing Time for a Manual Invoices is 10-15 Days, Partially Automated is 5 to 10 days, and Fully Automated Systems 3 to 5 Days. (Pymnts.com)

Process Refinement

1. **Evaluate Necessity**:
   - Before diving into automation, pause and ask: Is this process still needed?
2. **Validate Manual Workflow**:
   - Ensure that the manual process works well before automating it. If a manual workflow functions smoothly, it's a strong candidate for automation.
3. **Start with the Goal in Mind**:
   - Define the purpose of the process. What outputs are required? Work backward from the desired outcome rather than automating existing manual steps.
4. **Document Existing Workflow**:
   - Thoroughly document how the work is currently done. Understand the inputs, process steps, controls, and mechanisms.
5. **Map the Process**:
   - Create a process map that visualizes the entire workflow. Identify decision points, dependencies, and interactions.
6. **Prioritize Tasks**:
   - Not all processes are equally suited for automation. Prioritize tasks based on their impact and benefit.

Supply Chain Management and A/P Use Cases

- Contract Price File Audit – Audit prices paid vs contract prices
- LBB Contract Reporting – Loading Purchasing contracts to Texas Legislative Budget Board Contract Management System
- GPO Contract List Website – Website that lists all the Alliance GPOs
- Missing Receipt Voucher Error – Loading missing receipts into Jaggaer
- HUB Reporting – Reviewing payment data to determine HUB vendors
- AP Invoices – Using Intelligent Document Processing (IDP) to review pdf invoices and create payment vouchers

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RPA Use Case : Missing Receipts Reprocessing

- Prior To RPA Manual Updating of Vouchers In Jagger and Reprocessing was a timely Manual Process Taking Nearly 6 hours a day once a week.

    Manual : 1 Minute Per Voucher once week.

- RPA tools, read missing Receipts, update voucher date and reprocess an item in 1/3rd the time Plus Generate a Monitoring report of items and their timeframe.

Automation: 18 Seconds Per Voucher three times a week.

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Future Trends & Predictions

By 2025, generative AI will be a workforce partner for 90% of companies globally.
— Gartner, We Shape AI, AI Shapes Us: 2023 IT Symposium/Xpo Keynote Insights, By Mary Mesaglio,

10% of operational processes will use LLM-infused AWA digital coworkers.
— Forrester, Predictions 2024: Automation

What the analysts say: More than 50% of organizations now use process intelligence tools, and the remainder plan to use them.
– Forrester Predictions: 2024 Automation

- Generative AI & intelligent automation
- Digital worker-first processes
- Pure play to platform play
- Citizen Development
- Governance and security

By 2026, developers outside formal IT departments will account for at least 80% of the user base for low-code development tools, up from 60% in 2021.
— Gartner, Gartner Forecasts Worldwide Low-Code Development Technologies Market to Grow 20% in
2023, By Meghan Rimol DeLisi, Catherine Howley, Explore how to embed AI 13 December 2022.1

What the analysts say: 70% of enterprises will form strategic ties with cloud providers for gen AI platforms, developer tools and infrastructure, requiring new corporate controls for data and cost governance by 2025.
– IDC FutureScape

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