

Pharmaceutical Marketing Optimization with

HUMAN INTELLIGENCE AUTOMATION[®]



Instaknow technology is protected by U.S. patents 6732102,
7073126, 7437342, 7979377, 9443005 and pending patents

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I. Overview

Global competition is forcing many organizations to do more with fewer resources. One well known approach to increased productivity and cost reductions is automation of repetitive business processing to eliminate manual touch points. Automation reduces the need for hiring and training staff, resulting in operational cost reductions and an “Agile Enterprise” with rapid and accurate responses to problems and opportunities. The Instaknow technology can facilitate a more flexible and reliable automation scenario than current or standard technologies, especially when dealing with exponentially growing data volumes.

CURRENT PROCESS AUTOMATION TECHNOLOGIES: BPA AND RPA

With technologies like “Business Process Automation (BPA)”, a new, integrated “collaborative” layer of composite business rules can be deployed across multiple systems to automatically control each system’s actions. Another technology “Robotic Process Automation (RPA)” allows software “bots” to repeat pre-taught actions across user interfaces of diverse systems, doing the same work as a user does.

However, in reality, BPA is expensive and time-consuming because it requires every system to be reengineered to make it XML-enabled. RPA is not useful for high-volume complex processing because it BLINDLY repeats pre-taught actions, and is unable to handle even minor variations in data layout/formats in user-interfaces or documents, making it error-prone and unreliable. Lastly, both BPA and RPA lack the “fuzzy” intelligence that people can apply to solve the business problem.

A NEW APPROACH: HUMAN INTELLIGENCE AUTOMATION®

Instaknow.com, Inc. has developed a real-time process automation platform, the Instaknow-ACE® (Active Collaboration Engine), that “overlays” integrated business processing on top of current systems and data sources, while retaining much of “Human-like” data awareness and flexibility. This is a far more cost and time effective way of deploying the benefits of process automation than BPA or RPA, because it can automate complex workflows with very high accuracy, without changes to systems, procedures, policies or documents; and can quickly and RELIABLY displace cost of manual work being done by hundreds of people.

Instaknow-ACE ® is powered by patented Artificial Intelligence to learn business case examples shown by an authorized user via a point-and-click graphical “design” interface. All system/data interactions used in these initial examples are automatically saved by Instaknow-ACE for future automated execution of similar business transactions; with the unique ability of automatically adapting to variations in data-of-interest, which might exist between the examples and the actual transactions.

After learning, it can interact in real-time with any number of hard-to-integrate data sources like Web sites, portals, SaaS solutions, Screens, documents, e-mails, attachments, just like a user would. Using friendly “point-and-click” graphical interfaces, any level of business intelligence (rules and decisions) can be added across the multi-system reads/updates to intelligently execute the automation based on run-time conditions. It automatically detects, reports on and handles all processing exceptions as per desired rules.

Working like many automated, expert users, Instaknow-ACE processes thousands of complex business transactions in minutes, rather than days taken by people, while following every rule and policy you ask it to follow. Built-in “fuzzy matching” capabilities allow for correlation of multiple, non-exact information across systems in a highly reliable manner. Audit trails are kept as desired and all existing security policies of all systems (digital certificates, passwords, LDAP based roles etc.) are honored automatically. The processing can happen as desired - triggered by users, invoked by other authorized system on demand, according to schedules or in a continuous mode till stopped by an authorized user.

INSTAKNOW MAKES IT SIMPLE

Instaknow Automates Complex Processing with Human Vision-like Scans of All Data



INSTAKNOW PROVIDES SMART AUTOMATION ACROSS ALL SYSTEMS



**ANALYZE
PROCESS
CONCLUDE**



System agnostic - No changes to internal or external systems!
Processing can run on-demand by users, systems, schedules or continually.
Real-time Processing, Reduced Cost, Increased Productivity.



**UPDATE
PUBLISH
ALERT**



Update Systems
Public, Remote



Publish Web Pages,
Reports, Twitter



Send Alerts,
Email, IVR, SMS

Automated processing **WITHOUT** cost of re-programming every system * Rapid I2B

UNIQUENESS

Combining all capabilities of an advanced programming language AND those of many well-trained, expert business users, Instaknow's "Human Intelligence Automation" is distinctive because it is

- Designed for enterprise-class, high-volume parallel processing and multi-machine-load-balancing, to deploy mission-critical, high-volume operations, capable of processing millions of complex business transactions per month using only 2-3 standard machines, with built-in redundancy and fail-over.
- Does not require programming – Instaknow programs itself automatically from the external system interaction examples you choose to show, adapting to each system's unique data content, format and navigation. You can also add cross-system business decisions (business rules) via a point-and-click graphical interface to make the automation as intelligent as your expert business users, including exception handling.
- Easily links to all data - Reads-updates normal enterprise data sources (Databases, SOA, EDI, APIs etc.) as well as hard-to-integrate, unpredictable-layout sources (Web sites, portals, SaaS, Excel, Word, PDF, e-mails, attachments, mainframes, AS400 and other legacy systems). All natural languages are supported.
- Automatically adjusts to infinite variations of data-of-interest, e.g. data location/format changes, like an electronic "eyeball", making it radically more reliable than blind RPA bots. E.g. it can accurately isolate and read specific required data from complex web pages and documents, regardless of unknown Web page layouts, document page order, unpredictable paragraph sequence, varying data location within a page etc. It is also color/font sensitive and can apply color-based business rules like "Purchase Orders in bold text with yellow background need cross-verification with ERP invoices".
- Processes complex business transactions with broad awareness, e.g. in a single transaction, data from three emails, five browsers, three Excels and two PDFs – can be correlated (and updated, if required) in real-time, just like a trained user would do. And multiple of such multi-source transactions can process at the same time from a single machine, drastically reducing the number of machines required for automation.
- Applies multi-parameter "fuzzy matching" intelligence to find same or similar information with reliability of an expert user.

BUSINESS BENEFITS OF INSTAKNOW-POWERED HYPER-CONNECTED SOLUTIONS

- Faster business processing at reduced operating costs. Millions of business transactions can reliably be automated per month.
- Leverage value of and investment made in existing systems without costly technical changes.
- Provide straight-through processing with internal and external partner, customer and supplier systems.
- Reduce manual data lookups / research / data entry / errors / corrections / re-do's / customer complaints; resulting in higher quality and performance. Free staff for higher-value tasks.
- Drastically reduce system integration costs and traditional delivery times.
- Bring enhanced product/service offerings to market faster than before.
- Provide solutions to business problems previously considered too costly, time prohibitive, unrealistic or impossible to achieve.

Case Study – Pharmaceutical Marketing Optimization

CLIENT

\$82 Billion Swiss Pharmaceutical Conglomerate

BUSINESS PROBLEM DESCRIPTION

Every new drug/product launch requires detailed research to decide optimal marketing strategy. Part of the strategy requires targeting “Key Influencers” - prominent physicians and professors practicing in the field of a new drug, medical device or treatment. Special marketing materials, campaigns and conferences need to be planned and delivered to educate the Key Influencers about the new drug or treatment, with the hope that they in turn will spread the benefits message to their peers.

Detecting the top 1,000 “Key Influencers” to include in a specific marketing campaign requires retrieval and thorough analysis of information on many thousands of physicians. Physicians need to be found, compared and saved for EACH physician evaluated.

Given that there are about 300,000 licensed medical practitioners in the US alone, deciding which 1,000 to target for the crucial initial marketing campaign of a new drug or treatment used to be a very manual (the client used an offshore BPO outfit to do the research manually), slow, expensive process and sometimes delayed product launches.

Much of the required information about the physicians is publicly available on the Internet in various web sites hosted by different organizations. Other information is available through paid Web based search engines. Examples of Web based information on physicians include:

- Name, address, practice address (Government hosted online database, physician participation is optional).
- Academic qualifications, degrees, awards (Industry news).
- University and hospital affiliations (Hospital web sites).
- Medical Journal articles published (Journal web sites for various medical specialty journals, PDFs).
- Positions on editorial boards and professional associations/societies (Association web sites).
- “Clinical Trials” participation (Government hosted online databases).
- Grants received from Government (Government hosted online databases).
- Speeches at conferences (Google search).
- Mention in industry news (Searches on industry portals).
- Books written (Google Scholars, Amazon book search, PDFs).
- Resumes (Word, PDF documents requested by company from physicians – some provide, some do not).
- Background checks on people and group practices (Lexis-Nexis, Dun & Bradstreet etc.).
- “Debarments (regulatory actions)” by State/Country Medical Boards (State Medical Board Web sites).
- Criminal convictions (Online court systems).

There are hundreds of such sources depending upon location/jurisdiction of controlling bodies/organizations. Each Web source and document is formatted differently.

INSTAKNOW'S SOLUTION

Instaknow automated the prior manual Web research. Information is now automatically retrieved and correlated across five internal systems and about seventy external Web sites. It is kept current automatically on a continual, daily-refresh basis, saving thousands of hours of prior manual research work.

Detecting physician uniqueness across fragmented data sources was a problem that no other software had been able to solve. There may be multiple “Dr. John Smith”'s in one list. The need is to match each one correctly to the same “Dr. John Smith” from another list containing other information. Instaknow's built-in “Fuzzy correlation” capability is used throughout the solution. Non-exact addresses, locations, hospital names, medical terms are matched with as much fidelity as a trained user would.

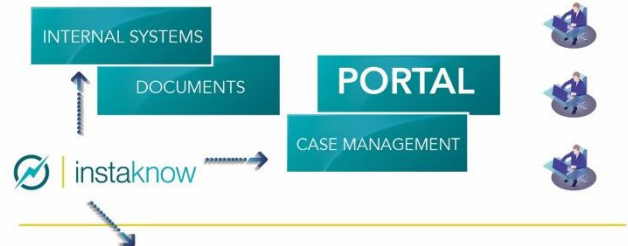
This solution uses Instaknow's distinctive capability of “discovering” required information within complex screens and multi-page documents at run-time. Information can be at pre-known or not-pre-known locations. Instaknow's pattern-matching artificial intelligence scans the screen/page layout at run-time to dynamically locate the information. Using existing browser GUIs, internal systems are updated like a user would, without system changes.

The solution was deployed in rapid spirals of 4-6 weeks each, over a total elapsed timeline of six months.

\$82 BILLION SWISS PHARMACEUTICAL INVESTIGATING PHYSICIANS TO IDENTIFY “KEY INFLUENCERS”

IDENTIFY 3,000 KEY INFLUENCERS (TOP 1%)

MULTI-YEAR MARKETING PROGRAM



50 STATE MEDICAL BOARDS

HOW TO IDENTIFY A KEY INFLUENCER?

- Journal articles published
- “Clinical Trials” participation
- Grants received from Govt.
- Speeches at conferences
- Mention in industry news
- Books written
- Resumes

EXCLUDE

- Debarments (regulatory actions) “by State Med. Boards
- Criminal convictions



BUSINESS BENEFITS OF THE INSTAKNOW POWERED HUMAN INTELLIGENCE AUTOMATION SOLUTION

Actual (Client-measured) Business Benefits

- 93% reduction in data gathering work (7% reviewed manually due to lack of basic data).
- 3 times more value-added work by same marketing department staff.
- Hundreds of thousands of Web data items scanned and correlated every day.
- Auto-discovery of “fuzzy” correlations (institutions, specialties, author-pairing).
- Each drug marketing plan completed 20-30% faster than before – competitive advantage.
- Ability of analyzing “cross-universe” data across hundreds of fragmented sources

The solution has been a major success thanks to the Client’s vision and Instaknow’s unique capabilities. The solution is being expanded for the Client’s world-wide branches with ability of comparing multi-lingual data.

About Instaknow

Instaknow is a fast-growing B2B Artificial Intelligence software company. Our “Human Intelligence Automation ®” AI software helps Fortune 1000 organizations and large government agencies become more efficient and productive by rapidly cutting time, effort and costs of data intensive manual operations. Our software has been granted five U.S. patents and more are pending.

Our current customers include global giants in banking, pharmaceuticals, logistics, legal, telecom, federal/state/city agencies and many more. Exciting new AI breakthroughs in our latest software release (think “dramatic advances beyond Robotic Process Automation”) are about to revolutionize how corporations rapidly achieve “Digital Transformation” at mass scale.

Our AI software is used in many industries and in hundreds of different ways, providing multiple avenues to succeed, a rich learning experience; and a chance to solve high-value business problems in never-before-possible ways.

For more information, contact solutions@instaknow.com



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