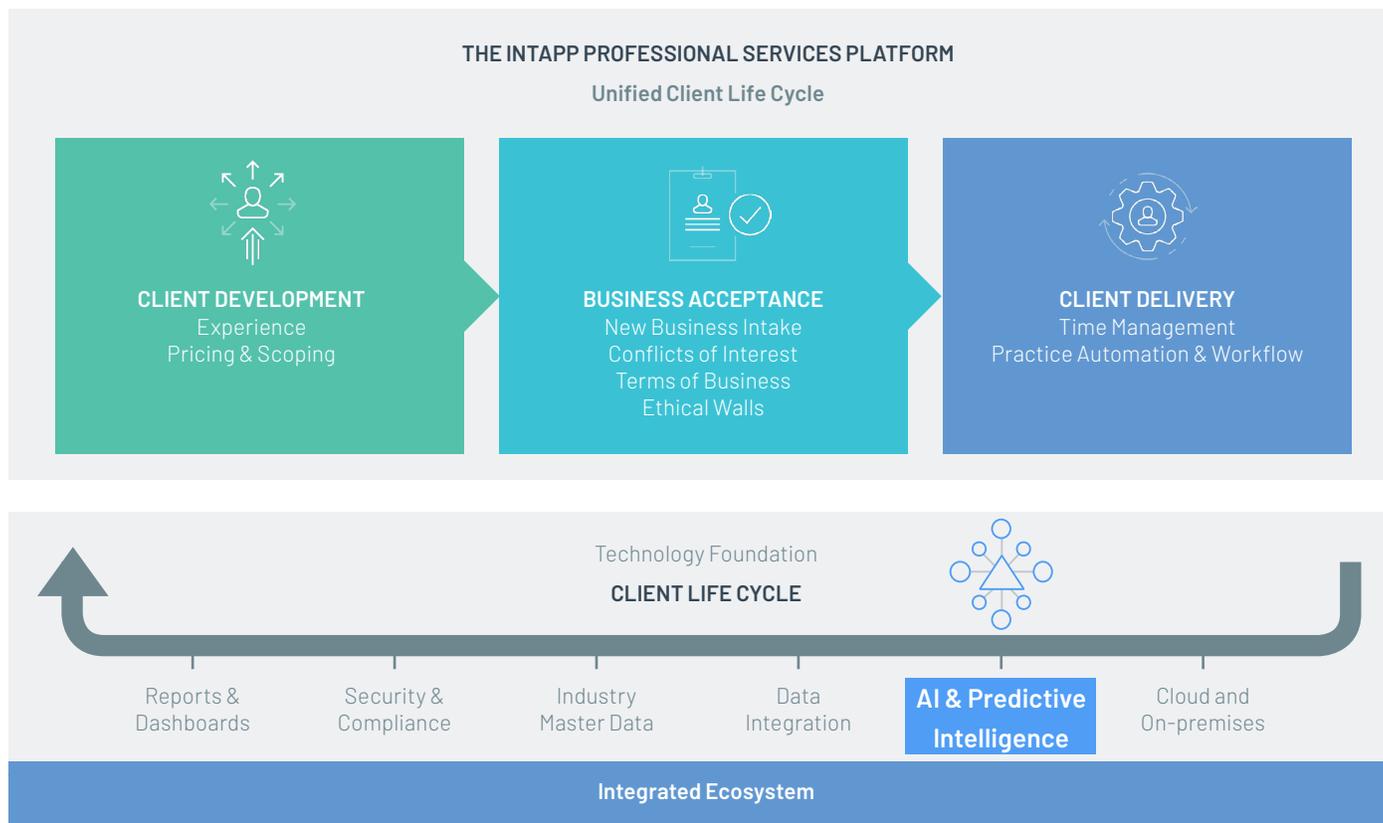# Intapp and Applied AI

Technology assisted decision-making for professional services firms

Professional services firms are struggling to extract valuable insights from their data, hindered by fragmented systems and incongruent technology. The Intapp Professional Services Platform uses applied AI to provide actionable information through all stages of the client life cycle.

Professional services firms are sitting on unprecedented amounts of data. This data can be leveraged in a smarter and more efficient way of delivering services and running the business. For example, analyzing internal data can provide daily functional decision support, while leveraging third-party data can track industry-wide trends relevant to strategic planning.

Whether at a law firm, an accounting firm, a bank, or a consulting firm, one's work involves finding and synthesizing relevant information more quickly, even as the body of information available continues to grow.

Intapp's intelligent professional services platform was designed with the entire client life cycle in mind. Artificial intelligence (AI) capabilities are infused into our products and workflows. Intapp's client and work proximity models are at the core of our AI platform. They inform a variety of other applications that help firms streamline repetitive or error-prone processes and derive better insight and value from their data.

THE INTAPP PROFESSIONAL SERVICES PLATFORM

Unified Client Life Cycle

CLIENT DEVELOPMENT
Experience
Pricing & Scoping

BUSINESS ACCEPTANCE
New Business Intake
Conflicts of Interest
Terms of Business
Ethical Walls

CLIENT DELIVERY
Time Management
Practice Automation & Workflow

Technology Foundation
CLIENT LIFE CYCLE

Reports & Dashboards | Security & Compliance | Industry Master Data | Data Integration | **AI & Predictive Intelligence** | Cloud and On-premises

Integrated Ecosystem

Some of the AI technologies Intapp employs are listed below:

Natural Language Processing (NLP) / Text Mining

NLP is a way for computers to analyze and derive meaning from human language. For example, we use NLP and text mining to identify key passages of terms in outside counsel guidelines (OCGs). This can be done with both standardized and customized term templates. A common NLP method Intapp uses is the maximum entropy classifier, which is a probabilistic classifier that can be used for multiclass text-classification challenges such as language detection and topic classification.

Machine Learning (ML)

ML is a subset of artificial intelligence that uses statistical techniques to give computers the ability to "learn" by progressively improving performance on a specific task. We use supervised machine learning classifiers to score likelihoods that a conflict of interest could arise in accepting and onboarding new business. ML techniques used include multilayer perceptron neural networks, random forest algorithms, and gradient boosting. These are trained on a firm's database of their past decisions about clearing potential conflicts of interest.

Predictive Analysis

Predictive analysis uses a variety of statistical techniques from data mining, predictive modeling, and machine learning to analyze current and historical facts to make predictions about future or otherwise unknown events. We extract new tags from matter file content and other sources using predictive analytics.

Human-Computer Interaction (HCI)

HCI researches the design and use of computer technology, focused on the interfaces between people and computers. By using cognitive science findings, HCI enables computers to improve the processing of information as a result of human interactions. We deploy HCI techniques to improve, govern, and reinforce classification results for the skills in professional profiles.
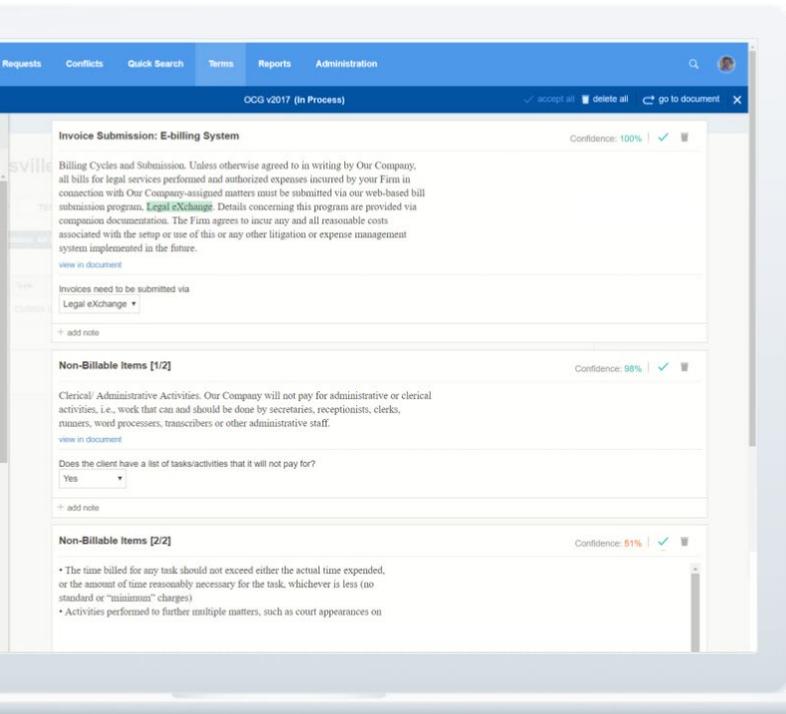
"We are very concerned about outside counsel guidelines. However, reviewing each and every client requirement is time-intensive and can be challenging, especially with limited resources. Intapp's AI-assisted terms management system is an excellent solution that speeds up the review process and helps manage ongoing compliance."

BRYNN STEVENSON, RISK MANAGEMENT MANAGER, DICKINSON WRIGHT

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Intapp's applied AI use cases are derived directly from the client engagement life cycle

We have identified areas in the client life cycle on which we can effectively apply AI and assisted decision making. The results are an improvement in efficiency of up to 70% in time savings, but also in the accuracy of the work performed.

The AI and ML tools in our platform span the entire client life cycle. Because various processes are interdependent, leveraging AI within one of them feeds into and informs subsequent connected processes. For example, assisted terms categorization is the first step in terms enforcement, which may involve both ethical walls or other information barriers (Intapp Walls) and the enforcement of billing guidelines in recording time (Intapp Time).

Intapp applied AI accelerates a professional firm's operations and enables improved accuracy of actual work.

By applying assisted AI at all touchpoints in the client engagement — from the initial pitch to onboarding and compliance to the delivery of client services — Intapp's integrated platform helps professional services firms achieve optimal results.
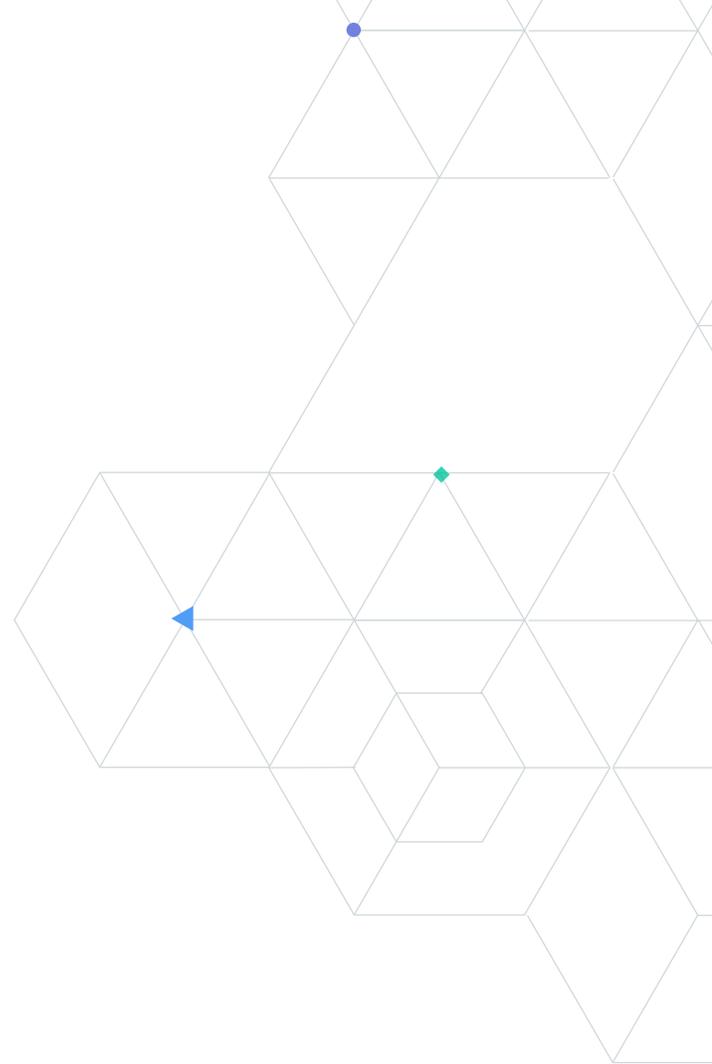
First Touch to Final Outcome

Understand **client's business** and ensure **quality**, **compliance**, and **transparency**

Strategy	Scoping & Budgeting	Intake	Engagement Letters	Resourcing	Project Mgmt.
Targeting	Experience	Conflicts	Client Terms	Time Mgmt.	Global Bill & Collections

Ensure **client success**, cultivate **loyalty**, build a long-term **partnership**

Predictive Pricing

A major challenge firms face is finding the best examples of prior work to be used in estimating budgets for prospective clients. This is usually due to poor adherence to phase and task coding in the available data and a lack of details in the component data (e.g., whether a piece of litigation ever made it to trial or the number of office visits). There may be inaccuracy, like billing against the wrong code. And finally, the data may not be normalized due to time delays not properly accounted for, varying client response speeds, and many other factors.

In our quest to have better, data-driven pricing we need a way to structure past work actions or history — in other words, the best examples of prior work that we can draw upon when pricing or budgeting a new piece of work.

Our approach draws upon several dimensions of data from across the client life cycle: profiling data, the type of work that is being performed, time entry, and actual billings. These dimensions are used to create an engagement fingerprint. Then we apply the many dimensions of data, like narratives in time entries, and subject them to different algorithms and models, developing clusters of different engagement types.

Phase and task definitions across firms are hardly standard but machine learning algorithms employing HCI (human-computer interaction) techniques improve, govern, and reinforce the classification results.

We apply this across various systems, such as document repositories, emails, spreadsheets, or any other formats that firms would employ to maintain client and engagement information.

Experience Matching

In order to identify the entire scope of experience found within a firm, as well as maintain evolving experience changes over time, we built an AI-based engine that processes work or engagement profiles. Using NLP and ML techniques we classify the type of experience on work or project profiles. By employing HCI techniques, users can improve and govern the classification results.
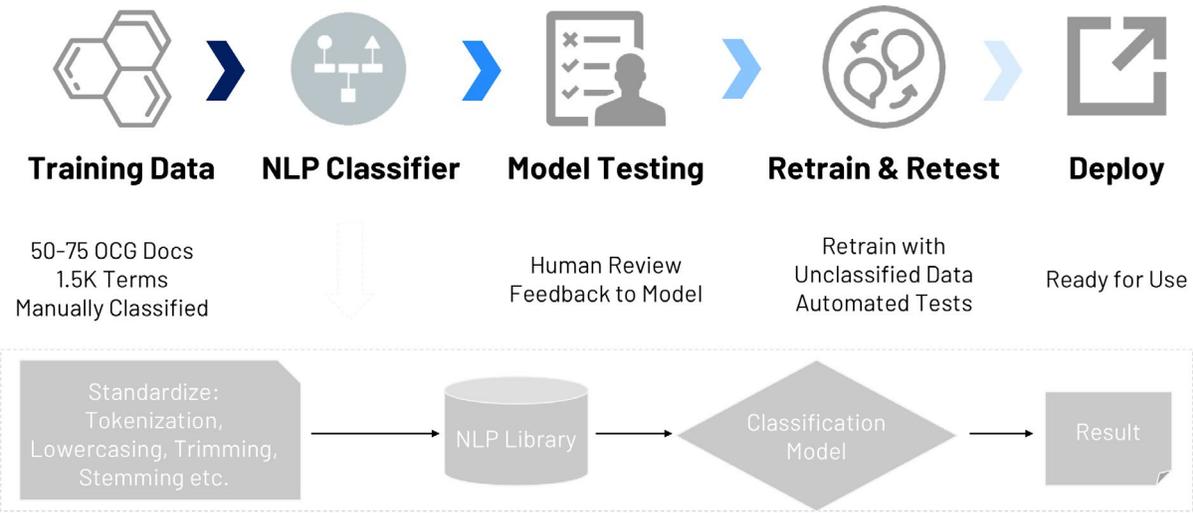
In addition, we use predictive analysis to automatically associate marketing data with financial data, like automatically linking cases to matters. We are currently exploring the use of NLP, data mining, unsupervised and supervised ML, and predictive analytics to extract new tags from existing content. Through HCI techniques we can improve and reinforce the classification results.

Intapp AI / ML Approach to Pricing

- Matter Profile
- Type of Work
- Times & Actuals
- Billings
- Collections
- Matter-Fingerprinting
- Phase and Task Prediction
- Feature Detection
- Budget Deviation
- Historical Analysis
- Matter Tracking

Expertise Profile

▾ Experience Profile

Name — Acting as defence counsel in follow-o (alleged) cartels

Client Name — --

Service / Area of Work — Cartels, Investigations and Da / Litigation, Arbitration and I

Industry — --

Outcome — --

Proposed Tags — Investigations

Acting as defence counsel in follow-on civil litig

Industry

Outcome — - None -

Expira 8/27

Proposed Tags — Investigations

ails

oved to Share

Training Data → NLP Classifier → Model Testing → Retrain & Retest → Deploy

Training Data
50-75 OCG Docs
1.5K Terms
Manually Classified

NLP Classifier

Model Testing
Human Review
Feedback to Model

Retrain & Retest
Retrain with
Unclassified Data
Automated Tests

Deploy
Ready for Use

Standardize:
Tokenization,
Lowercasing, Trimming,
Stemming etc. → NLP Library → Classification Model → Result

Terms Categorization

The challenge in meeting all of a client's obligations is in categorizing and making easily available all of the client terms and commitments categorized across your outside counsel guidelines and engagement letters. We provide natural language processing capabilities to categorize the most common terms found in corporate law matters. This makes it possible to determine who should receive notifications via email, and the level of information that should be provided.
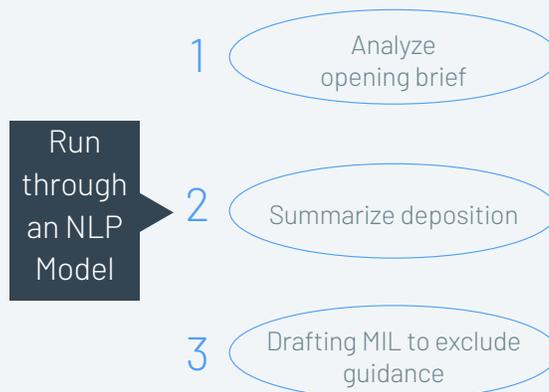
All of the AI-assisted categorization is presented to an expert to approve or revise the predictions. Intapp's intelligent platform then uses machine learning techniques to improve on future categorizations of guidelines based on human feedback while displaying a confidence level for those results.

At law firms, the outcome has been a demonstrated 66% reduction in time spent categorizing client terms and commitments in engagement letters and outside counsel guidelines.
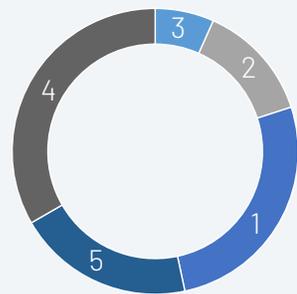
Time Card Narrative

Hours	Description
1.6	Prepared Narrative Statement of Undisputed Facts for summary judgment brief with supporting citations to the record
2.4	Prepared Legal Argument and Conclusions of Law section of summary judgment brief

Named Entry - Phase Association

Run through an NLP Model

1 Analyze opening brief

2 Summarize deposition

3 Drafting MIL to exclude guidance

Phase Prediction

Predictive Time Management

We draw upon data from a variety of sources, including calendars, desk and mobile phones, documents, web browsers, and email correspondence. We then use an NLP models to map details from these sources to the appropriate client and engagement and activity type, providing a streamlined predictive timesheet with more standardized narratives.

The model then learns over time, based on user associations and other data, how to make ongoing improvements to client / matter associations, and grouping like activities.

This results in more efficient and more standardized recording of time and fewer billing rejections by clients.

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Assisted Conflict Clearance

Conflicts search reports result in hundreds of thousands of hits, many of which are irrelevant or false positives. The thorough analysis of results to unearth the relevant ones is an extremely time-consuming process.

Firms today demand:

- Speed, thereby reducing delays in clearing business
- Thoroughness, ensuring nothing is missed that could result in costly implications
- Proactive action through ongoing financial threat monitoring and alerting based on the client's risk profile

The applied AI in our conflicts module uses a machine learning pipeline that includes data preparation followed by a standard machine learning classifier. Raw search results that include multiple hits on the same party or matter via different search term matches are grouped together to remove redundancy.

To solve the data quality problem we employ two strategies:

1. Improving data, either by repairing existing data or by self-correcting new data as it comes into the system

2. Coping with poor data, by setting algorithm parameters to be more conservative to catch errors due to bad data

We use a variety of ML approaches such as multilayer perceptron neural networks, random forest algorithms, and gradient boosting. Employing these techniques in conflict clearance can provide significant cost savings.

Cluster and Develop Work Product Similarity Map
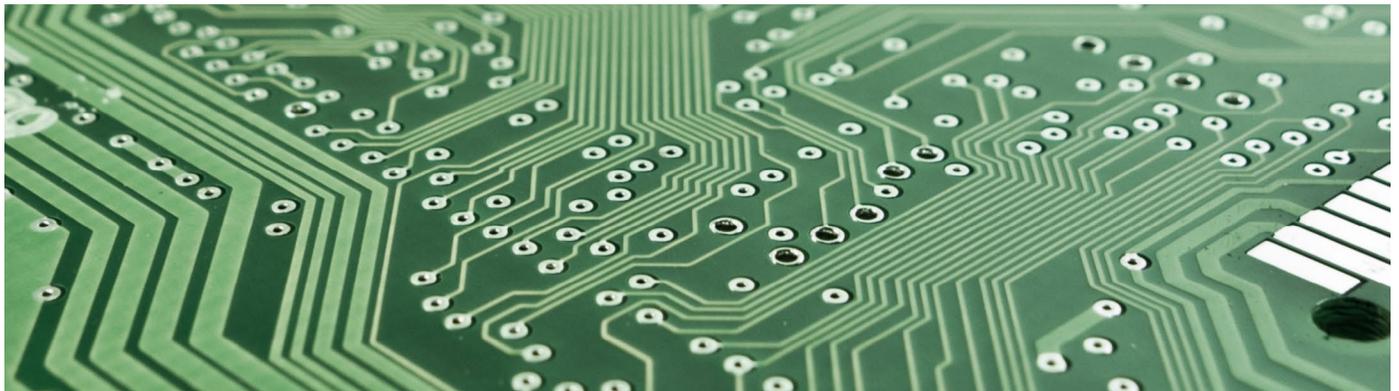
The Intapp Professional Services Platform combines human and machine intelligence to improve real outcomes

The integration of AI into our comprehensive platform enables our technology to better serve professional services firms from an end-to-end perspective. By leveraging data, trends, and past outcomes to obtain actionable intelligence, coupled with automation that reduces effort, we enable firms to create better outcomes while improving client service and results.

Our built-in AI helps firms at every stage, from leveraging predictive budgeting and reducing risk to automating compliance and minimizing revenue leakage. For instance, an automated process takes the properly classified terms processed with NLP and ML techniques and enforces them in downstream processes such as time recording.

Our applied AI and computational techniques also provide firms the capability to monitor against actual results, thus gaining learnings and insight that result in more effective engagements and matter execution in the future.

As a foundational technology of the Intapp Professional Services Platform, AI enables firms to harness the power of their vast data stores, apply automated learnings, and streamline and expedite processes across all stages of the client life cycle. In short, firms can now more effectively meet the increasing demands of the client-empowered era.

Real Outcomes | Substantiate Decisions and Track Results
Accountability and Visibility
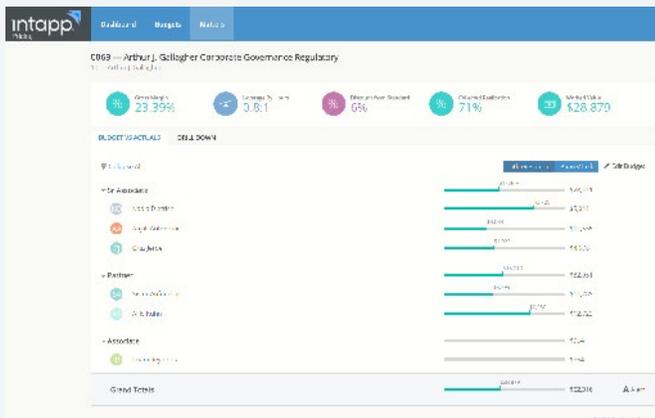
Monitor Plan: Monitor plan against actuals and provide reports and alerts both inside the firm and potentially to clients via a portal
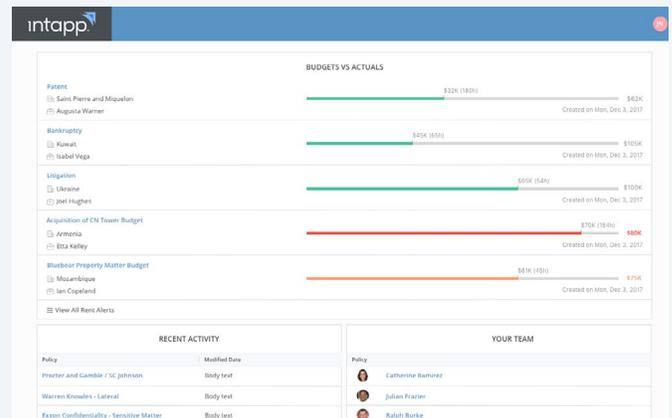
Engagement Visibility: Track engagement progress and collaborate within the firm

Automated Analysis
We mine accurate data from repetitive, time-consuming processes that are prone to human error.

Domain Focus
Our features are custom-crafted for the specific needs and demands of professional services firms.

Product-Embedded AI
We embed our AI capabilities into our products rather than bolting them on to existing solutions.

Decision Assistance
Our AI-assisted platform helps professionals improve performance, efficiency, and delivery.

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