



CASE STUDY: Brightleaf Abstraction Engine

About Brightleaf

Brightleaf Solutions is a leading technology-enabled automated contract abstraction service provider. The company's underlying Semantic Intelligence Engine applies breakthroughs in computer-based language analysis technology to legal documents.

Business Challenges

- High cost of manual extraction due to need for SMEs who understand contract legal language
- High volume of these contracts
- Repetitive and time-consuming process of extracting similar data
- Increase in verification process to reduce induced human errors during extraction
- Need for quick ramp-up of the team to onboard skilled SMEs if the contract language changes
- Iterative process if any value has been missed thereby increasing cost of manual efforts

Project Description

Abstraction Engine is a project designed & developed for Brightleaf to automate the extraction of required information from unstructured legal contracts.

It is an application which would be used for extracting important information from these documents, based on the similar principle used by the Subject Matter Expert (SME) who performs the task manually. The SME would define specific rules and make respective configuration to identify the required values. These can be verified manually and exported from the system.

The application is intended to achieve the following objectives:

- Managing the lifecycle of the data extraction i.e. from uploading of the document to verification and extraction.
- Batch processing huge number of documents
- Reducing manual intervention in entire process
- Extracting all the relevant data
- Reusing the configuration on similar documents
- Achieving around 80% data accuracy through factual data extraction



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Business Benefits

- Reduced time and cost of extraction
- Automated extraction process
- Reduced human error with increased data accuracy
- Ability to process high volumes of documents
- Reduce manual process of extraction and use the SME for data verification
- Resusability of the extraction porocess on similar contracts
- Accomodate change in requirements with ease while reducing manual rework
- Data extraction is expedited

Platform and Technologies

- **Platform and OS:** Centos / Linux / Windows
- **Programming Technologies and frameworks:** Java, J2EE, Spring, SpingData, REST, UIMA, UIMA-Ruta, Gate, OpenNLP , Angular Js, JQuery, BootStrap, Open Source Apache Libraries
- **Development Tools :** Eclipse, Tomcat, Mongo Workbench, Mysql workbench
- **Database:** MySQL 5.x, MongoBD

Nihilent's Role

Brightleaf approached Nihilent to develop a solution to automate the process of extraction. Nihilent's deep knowledge of the domain and technology and its research background in Natural Language Processing (NLP) helped the team in devising a smart solution that would reduce operational costs by huge margins for the end client and expedite the process of data extraction.

- The Nihilent team architected/designed/developed the entire framework for the Abstraction Engine.
- Nihilent has provided UI and other ideas to shape the project.
- This framework caters to Brightleaf's different requirements, which involve multiple high volume batch processing tasks
- Strategy partner in re-engineering the existing product to new technology
- Working towards a MVP (Minimal Viable Product) with multiple iterations to come
- Played crucial role in maintaining the quality of new product
- Acted as a consultant to resolve technical challenges

About Nihilent

Nihilent is a global consulting and solutions integration company using a holistic and systems approach to problem solving. Headquartered in Pune, India, Nihilent's executive team has several years of experience in international consulting, IT outsourcing and IT services. Our operations span North America, Europe, Africa, Australia, Middle East and Asia. Our mission Change for Performance encapsulates our commitment to make change happen systemically in terms of people, process, technology and knowledge for achieving sustained performance for our clients.