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Case Study

Mortgage Loan Audit Processing at California Based Mortgage Lender

Paradatec for Mortgages provides a unique approach for companies wishing to reduce the manual labor costs and increase the accuracy levels associated with classifying and capturing data from loan documents.

The financial services industry is challenged with managing large volumes of documents with varying layouts containing immense amounts of data – part of which is highly critical with regard to compliance. The traditional manual process for classifying and keying data from these documents is time consuming, error prone, and costly due to the sheer volume and complexity of the documents. In an industry where standardizing forms is not possible due to their varying systems and points of origination, an acceptable automation solution must be able to cope with this complexity.

Client

Top Mortgage Lender, California - USA

This California based lender is one of the largest independent residential retail mortgage lenders in the United States. It is a leading lender offering a full range of quality home loans, including FHA and VA, conventional, jumbo and super jumbo, and renovation loans.

Challenge

The mortgage lending industry presents a number of unique challenges for classifying and extracting data from key documents, due in part to the large volumes of disparate documents in most loan files.

- A typical mortgage loan file contains 250 to 600+ pages of various size documents, comprising more than 400 potential document types.

- Manually sorting each set of loan documents is a labor intensive and error prone effort, typically requiring the addition of document separator pages if the file is to be scanned.

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- To compete in this extremely competitive market segment, organizations are looking for ways to reduce costs and streamline their processes.

In addition to the challenges above, this Lender was looking for a solution to help automate the laborious task of identifying the few crucial documents containing key data points subject to the Home Mortgage Disclosure Act (HMDA) and state-specific per diem interest charge audits and then extracting that data automatically.

General Information	
Project Name	Mortgage Loan Audit Automated Document Recognition (ADR) and Data Extraction
Systems Integrator	Paradatec, Inc.
Products	PROSAR-AIDA, PROKEY, Pd Statistics, Pd Workflow
Publications	Case Study – Loan Audit Automation at Top Mortgage Lender (PDF)

Project Description

This top lender, like any other mortgage lender, is subjected to a variety of industry audits. These audits require that specific data be tabulated from each loan file and reported to the appropriate entity. In most cases, the volume of loans included in the audit scope numbers in the thousands to tens of thousands, many times with a very limited response timeframe. The size of their typical mortgage file (400-600+ pages), coupled with the short response window, usually entailed significant overtime expense when manual labor was the only method available to assimilate the required data.

The Paradatec system was selected based on a reputation as the fastest and most accurate technology available to read/OCR mortgage documents. Pre-production technical due diligence showed a system that was able to process around 1 million images per day on an eight core server.

Because of the extremely large number of forms (and variations of each) which this customer encounters, they required the flexibility offered by a non-template-based ADR and data extraction solution. *Paradatec for Mortgages* offered pre-built mortgage logic which "understands" the vast majority of the document types and variations this lender was required to recognize. This feature of the Paradatec offering allowed the customer to rapidly implement an ADR and data extraction solution for their specific needs.

This Paradatec customer was able to process millions of mortgage file pages each month. They no longer required data entry resources to manually enter key audit information into spreadsheets and submit for assimilation. Instead, the Paradatec solution identified all document boundaries (first and last pages) and the document types were automatically identified. Key audit data points were then extracted using *Paradatec for Mortgage's* data extraction logic and passed to the customer's downstream applications in a flexible XML format. These processes are were done faster and with a fraction of the labor formerly required. To ensure extreme accuracy, sophisticated mortgage lending business rules had been implemented as part of the Paradatec verification solution.

Paradatec's PROSAR-AIDA component of the solution is an advanced and unique OCR recognition technology. It is unique in that it utilizes neural networks technology and artificial intelligence. PROSAR-AIDA is able to read structured, semi-structured, and unstructured documents. It then makes 'decisions' about document characteristics in much the same way as a human being does, only many times faster and without human intervention. PROSAR-AIDA takes a very different approach from other OCR forms processing technologies in that it's a truly template-free design, allowing the system to easily cope with the varying layouts of each document. In performance terms, PROSAR-AIDA is capable of processing thousands of documents per hour with a single processor, and provides even further scalability by offering seamless support for the latest in multi-core processor technologies and multi-server configurations.

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Additional capabilities leveraged successfully at this top lender include:

- Verification provides a list of likely document types to further increase speed of verifying exceptions.
- Ability to customize how documents are handled based on the type of process to be conducted (e.g. origination, servicing, audit, etc.).
- Ability to quickly recognize additional document types using the Paradatec exclusive automated learning objects.
- Database lookups and business rule logic checks to ensure the highest degree of data accuracy.
- No scripting interface, with easily configurable rules to modify a customer's highly sophisticated ADR and data extraction processes.
- Ability to add processor cores (including new servers) to the environment in a matter of minutes to quickly scale and meet tight deadlines or increased staffing demands.

Outcome

The project was successfully implemented and released for production use in less than three weeks. For another quick turnaround audit, 75,000 mortgage files were processed (requiring the extraction of 25 total data points from three key documents in each loan file) in under four weeks. Individual documents were automatically classified 95+% of the time, limiting the manual verification time to approximately one minute per loan file on average. Specific data values were extracted correctly from these documents 80% of the time, resulting in manual verification of approximately three minutes per loan file on average.

Per **California based Top Lender, Senior Vice President, Closing, Post Closing and Government Insuring**, "Choosing Paradatec was a strategic decision for us. With their solution, we were able to complete high impact projects with a significantly improved level of accuracy and speed. We attribute our success on those projects to Paradatec's commitment to customer service, attention to detail and ability to adapt to evolving customer needs."

Further Information

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