

IRON MOUNTAIN INSIGHT® ON AWS MAKES LIGHT WORK OF DIGITISING NON-STANDARD, MULTI-FORMAT ARCHIVES

Converting physical archives into one virtual platform brings multi-faceted challenges. Especially if those legacy records go far back in time and span lots of different formats including ledgers, printed or handwritten text or notes, photos and microfiche film. These projects cannot be addressed with a one-size-fits-all solution, or by off-the-shelf scanning products. What's needed is a more tailored, business outcome-focused, consultative approach.

CHALLENGE

The client needed to improve productivity and customer service by minimising physical and maximising digital information.

SOLUTION

Iron Mountain InSight® uses Amazon Textract ML to digitise scans of paper and microform at scale through highly accurate content extraction.

BENEFITS

Staff complete faster searches with one digital database backed up by easily-located images, rather than having to fetch, scan and share physical records.

CHALLENGE

The client, a UK government agency, used to have to access hard-copy documents or microfiche from a physical library in response to requests from the public. They then had to work out the best way to share that information. This was a laborious, time-consuming and expensive task which was impossible to standardise given the variety of locations and formats of information. Some records did also exist in digital form, but didn't always contain full details from the physical records and only dated from more recent periods of time, meaning they were only partly useful.



This lack of standardisation placed a significant burden on archiving staff for exception handling and quality assurance, meaning employee productivity and customer service suffered. The process was heavily reliant on staff vetting every physical record and minutely managing every request for information.

Various attempts had been made in the past to try and solve these issues. Each time the client struggled due to clunky processes and error-prone results. These shortfalls in solution design continued to require high levels of human intervention, derailing the client's goal of automated digital workflows.

SOLUTION

Today, many companies manually extract data from scanned documents such as PDFs, images, tables and forms, or use simple OCR software that requires manual configuration. Manual configuration means the software often has to be updated. For example, when a form changes and the required fields accordingly change location on the page.

The Iron Mountain solution avoids this resource-heavy and expensive approach. Iron Mountain InSight® is an information management and content services Software-as-a-Service (SaaS) offering running on AWS. The solution combines the scanning of physical documents and digital storage on Amazon Simple Storage Service (Amazon S3®) with optical character recognition capabilities leveraged from Amazon Textract, which is a Machine Learning (ML) service that automatically extracts text, handwriting, and data from scanned documents.

Amazon Textract is programmed to recognise the titles of required fields and fetch the data adjacent to those fields, making it far more flexible than software which needs to know where a field is located on a specific page.

Amazon Textract then provides not just the data for a given field, but also an estimate of how confident it is that it has read the information correctly. For example, 99% confidence for typed information, gradated for different clarity levels of handwritten content. Importantly, this ensures that quality control staff have a very good steer on which areas require greater verification.

The solution also supports data ingestion from various sources: physical (paper, tape), digital (application- or human-generated), film and fiche; essentially, any information regardless of source.

RESULTS

Iron Mountain approached the project by looking at the required outcomes and then working backwards to create a process using the right technologies. Many weeks were spent building a deeper understanding of the client's documentation, processes and requirements.

Leveraging that knowledge, specialists explored how automation technologies could be applied to achieve the best outcomes. Only then did Iron Mountain move into architecting mode, precisely modifying and integrating its Iron Mountain InSight® platform with the Amazon Textract machine learning (ML) service.

Now, the process looks very different. Files and fiche are being digitised in large quantities with the relevant fields of information extracted and then either used to create a new database (for records where no database previously existed), or matched against the existing database. Additional information can also be added to the existing database where fields were blank.

The system also matches and points to relevant image (or image section) of the digitised material, making it easier for staff to verify database information. Where there is a mismatch between the image and the information in the existing database, an exception management process is instigated.

In the past, anomalies frequently had to be manually resolved, typically at the point when a customer requested the information, slowing down response. Now, errors are proactively resolved in advance during the digitisation process by leveraging AWS ML services, resulting in fewer anomalies and less human-in-the-loop intervention, thereby ensuring faster, better-quality customer experiences.

Of course, where there are complex anomalies, human judgment and intervention is still required, as it is for quality control checks both at scanning and digital data extraction stages.

However, in keeping with the principle of machine learning, the more checks that are carried out, the greater the increase in the system's ability to handle exceptions. The end result is a further reduction in human processing hours required, leading to greater cost efficiencies.

BENEFITS

- Citizens experience faster, more accurate government services.
- Employees get one central digital view of records held and no longer need to scramble around searching through boxes and scanning and uploading documents.
- Specific content elements within large files can instantly be pinpointed, many of which may have been unlinked or unsearchable before.
- Exceptions are captured and resolved, reducing costly quality assurance requirements.
- With up to 99.9% accuracy, ML and processing offer financial savings through significantly reduced human intervention and need to physically review each document.
- Reporting is tailored to match customer outcomes and achieve budgetary controls.
- Advancing flexible working through fully digitised workstreams, Iron Mountain InSight® content services can be scaled both for larger data sets and the needs of multinational companies.

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UK. 08445 60 70 80 R.O.I. 1800 732 673 N.I. 08445 60 70 80



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