Case Study

Postal Votes
Digitally Verified

How Idox enables its customers to accurately identify fraudulent postal votes using Wacom signature verification technology.

idox

WACOM® for Business

Idox Software
At a Glance

"We are confident Wacom signature verification technology will help us to continue to grow our Elections business. "

William Quinton
Head of Elections

Electoral processes
Accelerated digitally

INDUSTRY

Process software for government and industry

OPERATIONAL FOOTPRINT

Worldwide, with offices in UK, Europe, India

WORKFLOW

Postal vote authentication for around 60 UK constituencies

CHALLENGES

Enable fast, accurate, automated verification of signatures on postal voting documents

SOLUTION

Wacom Ink SDK for verification

OUTCOME

Efficient verification of postal vote validity and successful identification of attempted vote fraud

ABOUT IDOX

Founded in 2000 and with headquarters in Theale, south-east England, Idox's specialist software solutions power the performance of government and industry. The focus of its products and solutions is on driving higher productivity and improving the user experience.

WORKFLOW

Postal voting in UK governmental elections has become increasingly popular in recent years. Idox uses Wacom Ink SDK for verification to ensure the signatures on every ballot paper can be authenticated quickly, accurately and automatically.

CHALLENGE

UK election legislation passed in 2007 required local authorities to accurately verify the validity of handwritten signatures on postal votes. Over subsequent years, Idox established a position as a provider of the software required to verify postal vote validity.

The postal voting verification process can be summarised as follows:

Step 1

Voter registration
- A citizen contacts their local council to request an application to vote by post.
- They receive a pre-populated paper form with spaces for adding their date of birth and their authorised handwritten signature.
- The local electoral office scans this document and approves the postal vote registration.

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Step 2

Election
- When an election is called, registered postal voters receive their voting documents approximately two weeks in advance of the election date.
- The citizen returns their signed voting forms.

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Step 3

Verification
- Electoral staff use verification software to compare the signature and date of birth on the voting documents with the signature and date of birth on the postal voting application form.
- When the software flags a possible inconsistency between the signatures or dates of birth, the forms are checked manually.
- Those that are deemed suspicious are submitted to the official returning officer who must decide whether to accept or reject the vote.

Recently, automating this signature verification process has become even more important due to two additional factors:

1. **The regulation changes** that require every local authority to verify all postal votes, rather than just the 20% initially mandated by the UK government.

2. **The increasing popularity of postal voting**, exacerbated most recently by the Covid-19 pandemic, when postal votes increased to 45% of the total votes cast in some cases.

In 2017, Idox had already recognised a need to improve the efficiency and accuracy of its verification software. William Quinton, Head of Elections at Idox explains, "Speed and ease of use are crucial when it comes to software tools that process electoral votes. Many of the staff tasked with verifying votes during elections are employed on a temporary basis and are not familiar with handling these kinds of documents. That's why accurate automation of the processes involved is so important."

SOLUTION

As Idox looked for ways to improve its offering, it became aware of the Wacom Ink SDK for verification. Quinton explains, "We recognised that there was room to improve the effectiveness of the product we had acquired from another vendor. We decided to test the Wacom Ink SDK for verification to see if its verification engine could provide superior performance."

The Wacom Ink SDK for verification provides two forms of verification:

Real-time signature verification

Real-time verification accurately validates the biometric data and visual characteristics of a handwritten eSignature as it is created. It does this by comparing it with up to six reference signatures in real time.

Image-based signature verification

Image-based verification compares a static image of a signature against up to six known reference signatures by comparing the proportion of linked visual features in the signature, and their similarity.

Because voting and processing occurs asynchronously, it's image-based verification that is used in postal vote processing. Idox's extensive testing of the Wacom verification engine delivered positive results.

William Quinton says, "The test results were very clear. This meant we were confident that Wacom's signature verification engine would give our customers a significant improvement in the reliability, speed and accuracy of our product's performance. As a result, we decided to integrate it into our offering, and we are very pleased with the results."

OUTCOME

Speaking about the benefits of using the Wacom Ink SDK for verification in its solution, Quinton concludes, "The reliability, speed and accuracy of the Wacom verification engine has helped us optimise our postal vote verification offering. As a result, our customers can check the validity of tens of thousands of postal votes in just a few hours.

It's a key element in the success of our electoral management system, which is used by five of the six largest electoral authorities in Great Britain. Wacom is continuing to improve the accuracy of the verification engine still further, and we are confident Wacom signature verification technology will help us continue to grow our Elections business."

wacom®
Ink SDK

More human
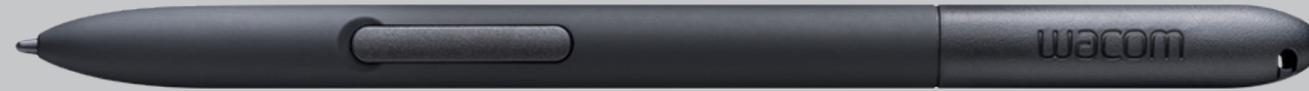
More digital

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