Using PDF forms for business purposes

Efficient processes rather than content disruption and transcription errors

Organizing business processes without forms is virtually impossible. Hard copy format still prevails despite the fact that capturing data in analog form —often handwritten—has many disadvantages Forward-looking companies are already looking to alternatives such as PDFs or database-supported input screens, but most do not exploit the full potential of these methods. This white paper will explain how to organize and automate workflows quickly and easily using PDF forms, saving significant amounts of time and money.

NUANCE

Table of Contents

Summary

Forms play a major role in all business processes. Many companies still rely on printed templates that have to be completed by hand, which has many disadvantages. From design to archiving, the process is costly, time-consuming, slow and risky.

Employees dedicate significant time editing paper documents. However, between data capture and data processing, the time taken up by completing paper forms is far greater and often takes days or even weeks. Therefore, companies that rely on paper forms cannot respond to market developments as quickly, putting them at a significant competitive disadvantage to organizations that respond faster and more accurately. Paper forms also involve legal risks. Around a quarter of all paper documents gets mislaid or go missing. When it comes to audits, operational inspections or legal action, this can have serious consequences.

This white paper describes how to use PDF forms to capture and process data quickly, effectively and correctly—and how to make it legally watertight. It also demonstrates how to maximize the potential of the PDF form and how easy it is to create and edit.

The business economics of forms

"From the cradle to the grave"—the saying does not just apply to our private lives—it's just as relevant, if not more so, to company workflows. The vast majority of corporate processes start off with a form. For example, sales, purchasing, HR, and other departments capture information and exchange it using forms, such as bids and contracts, inventory lists, parts lists, application documents or requests for annual leave. Industries in which record-keeping obligations are particularly extensive, such as legal firms, financial services and healthcare providers, receive mountains of mandatory forms from regulators.

These represent a significant cost. Paper forms have to be printed, put in envelopes, stamped and mailed, and then accepted, evaluated, archived and disposed of. The cost is significant, not only in terms of materials but also staff time.

So for businesses, capturing and processing data using forms represents a considerable expense. The first step in creating a paper form is design, which has to meet both legal requirements and internal corporate identity or branding guidelines. Then there is user guidance to consider. It must be made clear what the user has to do, in how much detail, and which fields are mandatory or optional. Anyone who has ever sat in front of a form with no idea about how to complete it knows that this is often no mean feat. These kinds of kinds of design flaws can result in massive losses or huge amounts of additional time, alienate customers, render captured data unusable or trigger a wave of queries.

Paper forms—a costly risk?

Once forms have been suitably designed, they have to be produced, distributed, processed and archived along with their content. Many companies still rely on paper for this. The reasons for this are largely practical. Paper forms can be signed. Where legal action is concerned, a hand-signed original is a good means of evidence. In addition, paper forms do not require IT infrastructures, they are hardware- and software-independent and can be simply distributed, whether by displaying them in-house or by mail or fax.

However, these apparent advantages are countered by huge disadvantages. First, paper forms are inflexible. Once they're printed, they can no longer be edited. If something on the template needs to be changed—even just the fixing the year or correcting a typo—all existing copies are sent to the shredder. Just the paper and printing costs easily amount to thousands, which can quickly add up to millions in major corporations. For example, if the company changes its name, all the pre-printed forms have to be recycled and re-created. Yet, staff costs are even greater; ultimately, someone has to print and distribute the new forms and collect the old ones. The amount of staff time spent on document management is estimated to amount to six times every dollar spent on printing and paper.

But the inflexibility of paper forms is only one of the risks. There is a steeper price to pay, in that data collected in this way is very difficult to process. Media disruption is unavoidable when transferring it to electronic systems. In most cases, this must be completed by employees, which is extremely time-consuming and has an adverse effect on productivity.

But even if a company does not need to process paper-based data any further and just wishes to archive it, paper forms present a host of problems. For one thing, they take up enormous amounts of space. The storage costs involved in retaining large volumes of forms for 30 years or more can quickly run into millions.

Finding a specific form swiftly in the event of legal action or requests from the authorities can be a significant challenge—if the form still exists. According to Deloitte & Touche, around 25% of all company documentation goes missing, never to be seen again.[1] This has serious consequences, as evidenced by an IDC survey of over 1,500 IT managers: over 75% of respondents said that poor documentation processes had resulted in serious business risks or compliance issues in the last five years.[2]

75%

of all respondents to the survey said that poor documentation processes had resulted in serious business risks or compliance issues in the last five years.

1 "Document Management" Deloitte &Touche 2006
2 "It's More Critical Than You Think: Poor Documentation Processes Are a Serious Risk," IDC 2012.

The PDF form—an alternative method with untapped potential

Given all the drawbacks, it is little wonder that companies have long since started seeking and using alternatives. An initial step for many is to print forms only when required rather than keeping stocks of paper templates. Or better still, distributing them electronically on demand. All that's required to create forms in a word-processing program; however, it's not recommended to distribute them in open formats such as .doc or .odt.

For starters, users could change an unsecured form to suit their own requirements, or inadvertently introduce errors to the form when editing or manipulating, which should be avoided. Further, these document types are not considered universal forms allowing many operating systems and word processing programs to change document layouts to make them presentable in their specific formats. For forms, this automatic reformatting can change the layout so drastically as to make them unreadable and unusable. And, for data extraction, the logical separation of predefined text and actual form data is anything but simple in open formats unless fields and macros are used to preclude any problems. The best option is to save the form as a PDF, as this will display correctly on any common operating system. A free PDF reader is all that's required to read and print them. PDFs can also be viewed directly in popular browsers such as Chrome and Firefox.

A non-fillable PDF form is a step in the right direction, but fails to exploit the format's true potential. In this example, the user has to print it out, complete it by hand and then scan or fax it. Someone at the company has to convert the data into electronic format, which entails the same problems and costs as hard copy forms. Therefore, it's far better to design PDF forms that can be completed so that users can enter data directly on the screen. Static, non-fillable PDFs or scanned-in form templates can be easily converted to fillable versions with the right tools.

Fillable PDFs present many advantages for companies looking to minimize their reliance on paper. Unfortunately, many companies resist updating their processes to capitalize on the security, cost and productivity benefits they could realize. Rather than processing the form electronically, users must print it out and return it to the relevant location. The "Save" function is often deactivated, which means that the same person completing the form has no choice but to print out a second copy for their records or retain the copy.

While a form filled in a non-fillable PDF form produces more legible data than one that's hand-written it is still disruptive to organizations presenting increased costs and delays. Here's an example:

At Company XYZ, it takes an employee five minutes to complete a request form for annual leave. It then takes the employee another 10 minutes to print, sign and fax the form to the relevant department. If the individual has to go to the shared printer on that floor to retrieve the print out, then sign it, put it in an envelope, address and send it, the whole process could take half an hour.

In addition, the processing department is likely to spend a similar amount of time on it. If there are 1,000 employees, that's a total of 125 man-days just for each employee's vacation request. According to a study by market research agency IDC.[3]

3 "It's More Critical Than You Think: Poor Documentation Processes are a Serious Risk," IDC 2012.

Information disruption hinders business

Today's CRM, ERP and HR systems allow automated decision-making processes based on real-time data. Staff shortages, material requirements or sales slumps can be predicted before they arise and prevented by taking automated countermeasures. But what good is sophisticated analysis when data captured on forms takes days to reach the company before being processed?

These kinds of information shortfalls have an especially negative impact when it comes to customer contact. If media disruption gets in the way of direct data processing, the customer is not able to get hold of critical information, such as product availability, delivery status or price updates promptly, if at all. This can have a significant impact on customer satisfaction, which, in turn, negatively impacts purchasing behavior and revenue.

Direct capture without information disruption allows users to overcome these problems easily. Rather than printing out the PDF form and faxing or sending it to the relevant department, users can transmit their completed version directly. Professional PDF programs such as Nuance Power PDF, extract the data from these forms and make it available for further processing and analysis in neutral formats such as XML or CSV.

This availability of data has other positive advantages besides the above-mentioned time benefits. For instance, HR planning systems can automatically use the data on PDF-based forms to create a personnel file for a job candidate who becomes a new employee. ERP systems can use order information to produce delivery notes and material orders and to allocate resources, all without further intervention. According to IDC, this automation boosts revenue by 36% while slashing costs by 30%. They further estimate that business and legal risks fall by a third when forms are electronically processed end-to-end.[4]

PDFs provide legal security

Paper or printed PDF forms also present legal problems. This whitepaper already mentioned the difficulties involved in producing the right documents quickly when it comes to audits, legal action or requests from the authorities. But certain aspects of data privacy also make hard copy forms and printouts problematic. Without PDFs, it is impossible to specify the authorized user group for a document. Anyone with physical access to the records – whether intentionally or unintentionally—or who just happens to be standing by the printer or fax machine when the form prints or sends, has access to potentially sensitive data. Paper documents can be stolen or "picked up", with no way of proving it.

In comparison, electronically-produced and distributed PDF forms are considerably safer. For example, business-ready PDF tools allow users to secure documents using 128- or 256-bit encryption, to prevent unauthorized users from reading them. With access management, users can specify who can view, print or change PDF files, while adding a digital signature unequivocally identifies the sender or editor. Employees can also automatically check a document for confidential data and either redact it or remove it. By flattening a document, including the signature and the form data, users create a legally secure version that cannot be changed. Flattening removes the fillable fields of the documents, leaving the entered data as text.

36%

increase in revenue

36%

reduction in costs

4 "Addressing the Document Disconnect:
  Hidden Opportunity, Big Payoff", IDC 2015.

Companies that use PDF forms are also in the best position when it comes to providing proof of communication. For example, email applications store a copy of all sent messages and attachments in the sender's Sent Items email folder. So if need be, users can legally prove which document was sent to which address. This demonstrates another benefit of converting paper to digital documents—attachments are automatically logged in email programs, a step that provides an additional layer of tracking capabilities.

HTML forms—an alternative option?

Database-supported data capture in forms is widely used for intranets and by online retailers. As a rule, users provide the required information via an HTML form, which ends up in a (usually relational) database. But when it comes to legal security and record-keeping obligations, this variant has significant disadvantages. As only the actual input data is saved, it is hard to prove, for example, which wording the form user has agreed to.

Such limited data becomes a particular problem if a lot of field designations change over the course of time, whether for legal reasons, to make form filling easier, or to account for internal changes. While the field name remains unchanged, front-end users see different input requirements over time. Unless the changes are accurately documented and can be unequivocally attributed to a specific entry by a timestamp legal problems are effectively "programmed in." In contrast, PDF forms can be archived as a unit and checked at any time if there are any disputes between the parties filling in and processing the form.

Another argument against processing form data with a database is that it often involves proprietary capture in distinct systems. Exchanging data between these information silos requires programming connectors or APIs. Manual intervention is often required—a time-consuming and error-prone process.

Application scenarios: The detailed benefits of fillable PDF forms

Almost any industry or end user can benefit from PDF-based form workflows. Here are just a few.

Healthcare
Today, clinicians spend a surprisingly significant amount of time on record-keeping, up to several hours per day. Record-keeping obligations represent over 20% of clinicians' and caregivers' staffing costs and document digitization will only go up in the near term.

While patient information is generally captured electronically, it is nearly always printed out and used as paper records after created. These are then mailed or couriered back and forth, rescanned by other departments or manually transferred to other systems. It's not uncommon for records to go missing or to fail to be provided in time for an examination, potentially resulting in lost time, duplication or misdiagnosis. Using fillable PDF forms can cut out many of the intermediate steps. For example, with one keystroke, data can be exported and access provided to medical systems; the clinician has access to the form anywhere/anytime ensuring the data is continually up to date.

20%

of clinicians' and caregivers' staffing costs are due to record-keeping obligations.

Legal firms

Lawyers and courts produce a constant stream of paper today. Evidence, statements, records, expert opinions and legal documents must be processed and securely archived. PDF forms can help reduce this workload considerably, especially as PDF has become the file format of choice for sharing and archiving legal documentation.

Instead of sending paper documents or PDFs back and forth for printing, the client completes a PDF form. The law firm then exports the form data and reimports it into other documents such as representations, expert opinions, comments or statements. PDF forms eliminate intermediate steps and speeds up communication between client and counsel. The forms also reduce the likelihood of errors—which is a huge advantage particularly in legal firms where deadlines can't be moved.

Financial services

The heavily regulated finance sector faces some specific challenges. It needs to replace slow, paper-based, expensive processes with faster, digitized, automated solutions but without compromising data privacy, security and compliance.

PDF forms can help cut the number of paper documents or even make them superfluous, assist with regulatory compliance and improve security. The financial services sector is much further ahead in this respect than a lot of other industries. Practically all banks provide fillable PDF forms. However, the user generally must print, sign and return them. Here too, an end-to-end PDF workflow has the potential to reduce days to hours, and hours to minutes— in an industry where time is money.

Government

In government, mountains of paper are the order of the day. Whether it's public requests for information, contracts, applications for grants and social security benefits, or accounts receivable, there are massive amounts of paperwork at every turn.

Producing, processing and archiving this mountain is cost-intensive and presents security risks. PDF forms have a major role to play on the road to digital administration. Not only can they be seamlessly integrated into administrative processes, but they are also far more convenient and secure than paper equivalents. For example, there are options for redacting sensitive passages of text, encryption, secure storage, user authentication and tracing document access and changes. For government agencies, this means greater document security.

Additionally government organizations may balk at the perceived cost of PDF solutions, especially since budgets for expensive software are tight. Reasonable licensing models put government agencies in the position to equip all their employees with powerful, user-friendly tools for electronic form creation and processing, thus speeding up the transformation to a digital government.

21%

saving on overall HR costs.

Benefits for sales

Whatever the industry, sales is an area in which employees greatly benefit from using PDF-based data capture and data processing. Although sales-people already use electronic systems on a daily basis, there is a lack of consistency. One person may manage contacts and meetings in Outlook, where another may write up meeting reports in Word and yet another uses Excel for organizing sales activities. A uniform PDF form-based workflow saves considerable time and money, and improves the transparency of the sales process. This could significantly cut the time that salespeople currently spend on administration, which translates into real savings in terms of HR costs.

Preparing quotes is another area that delivers significant advantages. Many companies already use PDF documents to do this, but then send them to customers by email, fax or even mail. The customer prints or copies them, makes a few changes such as tweaking order quantities or striking certain items off, rescans or copies the hard copy and returns it, and then the sales employee has to transfer the new information to an electronic system.

A PDF designed as a form, which can be filled in, eliminates all of these intermediate steps. The customer receives the PDF by email, makes any necessary changes in the editable fields, and sends it back. The sales employee can transfer the data directly into a PDF and continue processing it. And it's not a case of doing this form by form: business-ready PDF solutions can process thousands of forms at once.

Six good reasons to use Nuance Power PDF

A number of professional PDF solutions exist which include form-creation features.

However, Nuance Power PDF offers the following advantages:

1. **Flexibility at low cost.** Changing paper forms entails a lot of work, both in terms of disposing of existing stock and printing the updated version. PDFs, on the other hand, are quick and easy to amend. The new version is available to everyone right away.

2. **Converting static PDFs into fillable forms is simple and fast.** With one keystroke, Power PDF allows users to change existing PDF documents (based on a paper template for example) into fillable forms with active fields. Power PDF automatically detects whether to use a text field or selection boxes.

3. **A simple, transparent licensing model.** Power PDF does not require any type of subscription and there are no additional module costs. For only 15% of the license fee, Nuance offers optional maintenance and support.*

4. **Single-user licenses are available at reasonable prices** but with professional features means that companies can give every employee the tools to create PDF forms. This distributes workload more evenly and prevents the bottlenecks that would occur if only a few employees were able to create or process PDF forms. And the entire organization will have resources left over for those essential business IT investments.

5. **Easy to start, simple to use.** Using Power PDF is familiar to users of Microsoft Office. The powerful PDF solution has an intuitive user interface and all the functions required for creating, editing, evaluating and archiving PDFs. With Power PDF, users work the way they are used to.

6. **Fast conversion.** Instead of laboriously having to retype or re-create documents, users can quickly and simply convert PDFs into formats such as Microsoft Word, Excel and PowerPoint or Corel WordPerfect. Complex layouts with columns, tables and graphics are faithfully reproduced. Further, Power PDF supports bulk conversion, dramatically reducing conversion time for large amounts of documents.

It couldn't be simpler: creating and using forms with Nuance Power PDF:

With Power PDF users can create and fill out forms, make static forms interactive in a few easy steps, extract data, and save them for further processing.

Converting a form from a non-fillable to a fillable version
If users utilize using a non-fillable PDF form based on a scanned paper template or Word document, the "Form Typer" function in Nuance Power PDF makes it easy to convert it into a fillable form. Simply follow these steps:

Open a form with non-fillable fields in Power PDF:

Go to the "Forms" tab and select "Form Typer" from the ribbon toolbar:
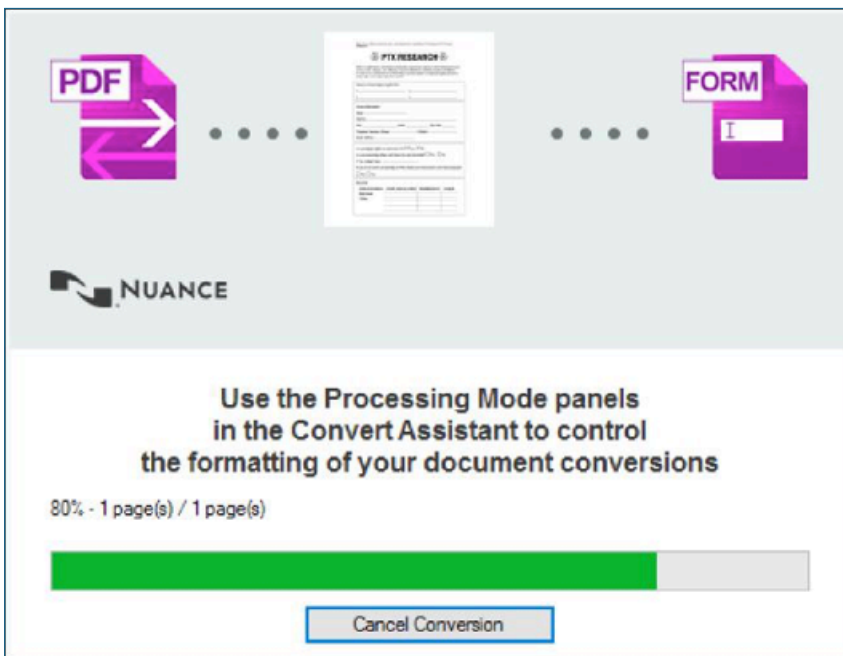
The finished document is displayed and a message will indicate that interactive form fields have been found. To see where they're located, click "Highlight Fields."
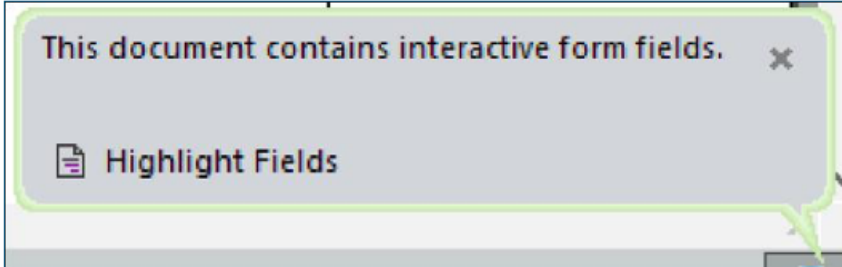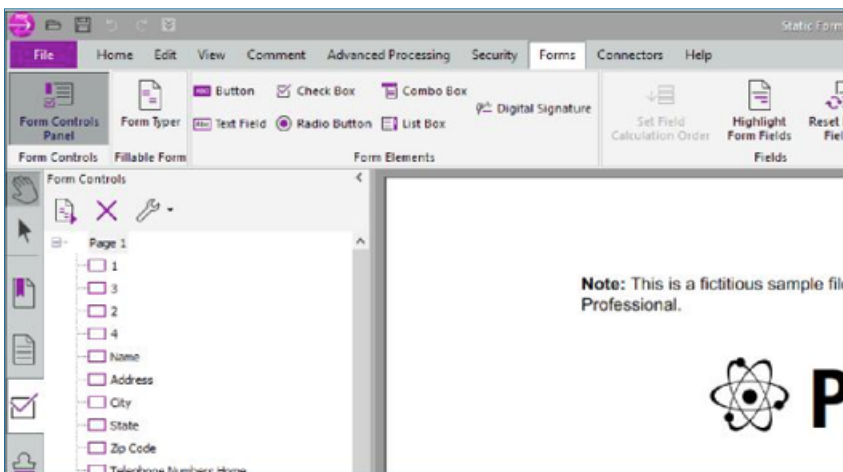

The fields are now highlighted. The radio buttons and check boxes are interactive too.
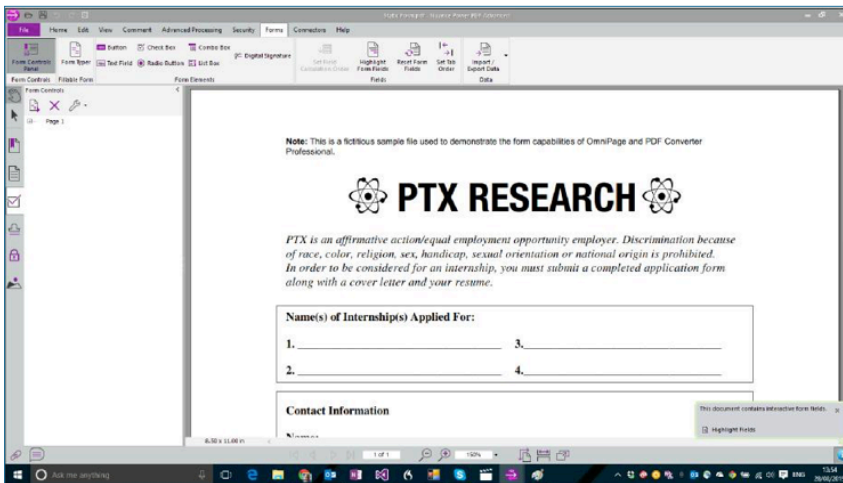

The result: a reusable, standard PDF form that can be filled in with Power PDF or other PDF products.

Power PDF provides added control over form input fields. For example, users can define a field as a button, text or check box field by clicking the relevant command in the "Form" tab:

If users wish to reuse the new interactive form they can save it as a template. Just click the "File" tab and select "Options" and then "Save As":
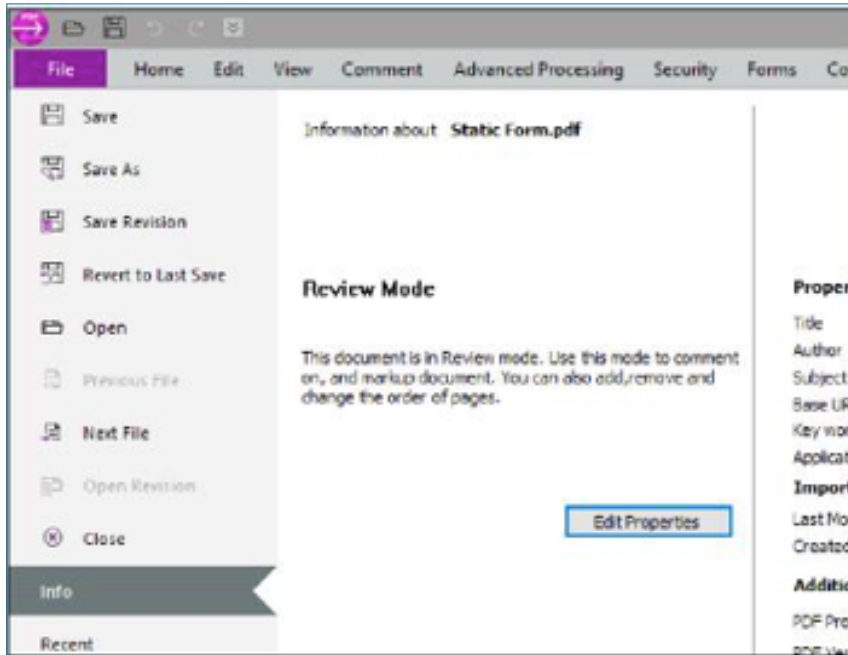
From the "Save As" window, users simply type a new file name for document. Then click "Save".
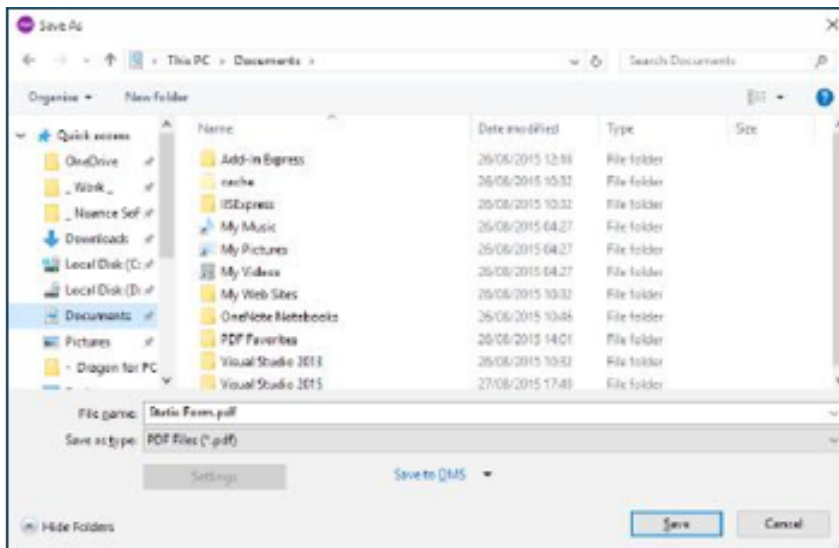
Deleting, exporting or importing form data

If users wish to remove data from a form, they can delete the input information with a single click and start again with an empty form. With the filled-in form open, they go to the "Forms" tab and click "Reset Form Fields":

Note: This is a fictitious sample file used to demonstrate the for
Professional.
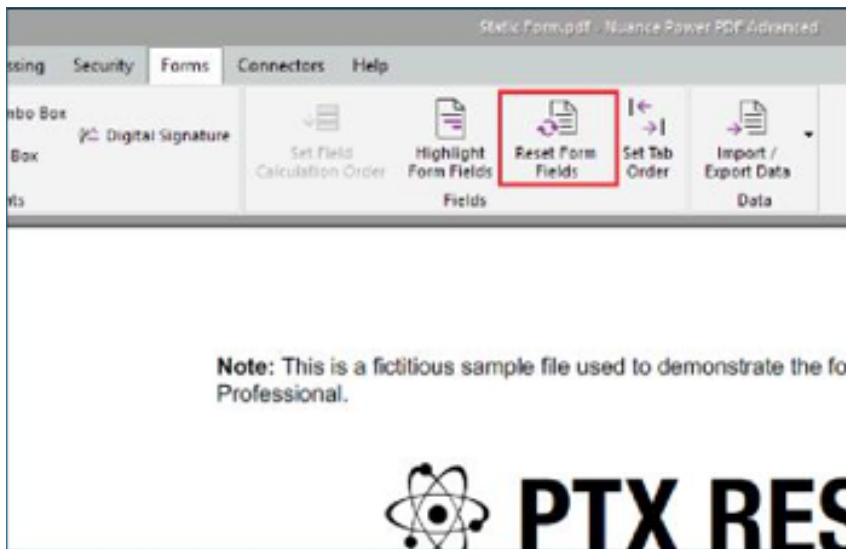
Users can extract the data that has been entered in a form and save it separately as a FDF, XFDF, XML or TXT file. The saved data can then be used to fill out other forms, for example. This considerably speeds up the filling in of forms if, for instance, identical data must be entered in a large number of forms.

To export form data from a single open and filled-in form, users go to the "Forms" tab, select "Import/Export Data", and click "Export Form Data" in the menu:

Note: This is a fictitious sample file used to demonstrate the form capabilities of OmniP
Professional.
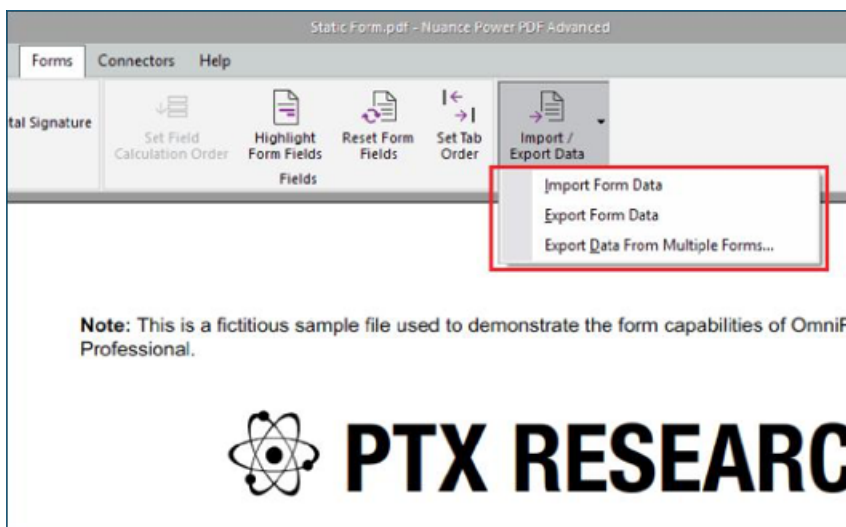
When the "Export Form Data As" dialogue box opens, users specify the name (e.g., demo) and select the file type (e.g., FDF):
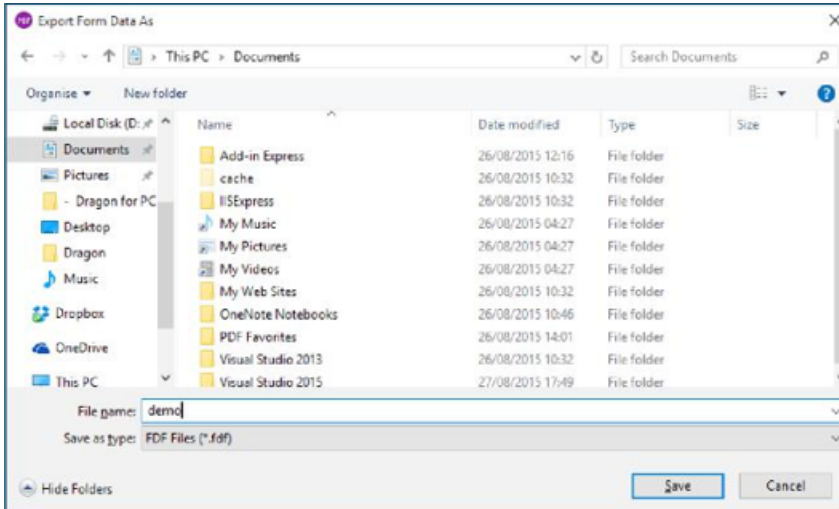

Click "Save". Users' data is stored in the defined location and file type. Saved form data can be imported into a new empty form.

Start by opening an empty form. Users open the "Forms" tab, click on the "Import/ Export Data" icon on the toolbar and on "Import Form Data" in the menu:
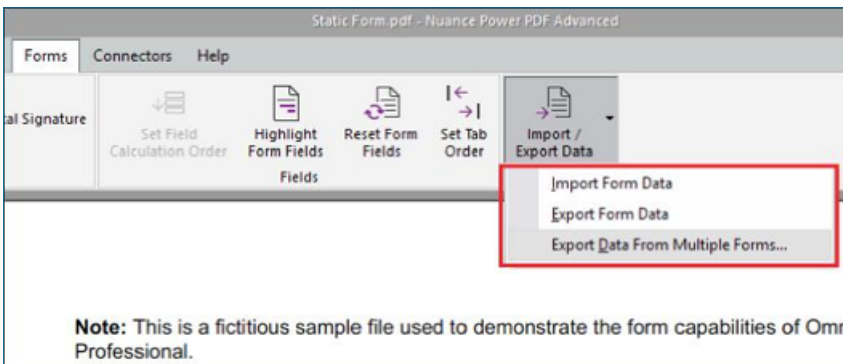
In the "Select File Containing Form Data" dialogue box, the users chooses a file type from the pulldown menu. In this example, the .FDF we just saved.
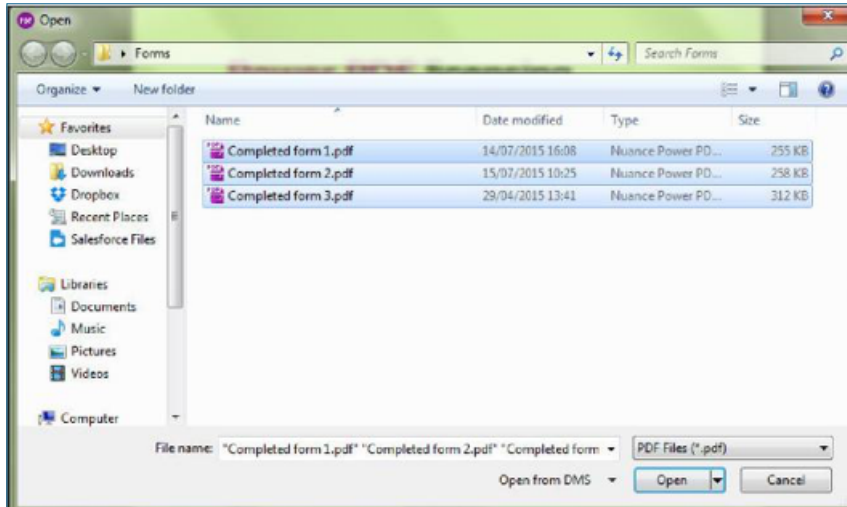
Open the file either by double-clicking it, or users can click on the file and then click "Open."

The information saved in the data file is now in the form. As long as the chosen file contains form control descriptions and data that is suitable and matches the current form, the data will be inserted into the proper fields.

Exporting data from multiple files
Data can be exported from multiple forms with the same data field sets to the file types XML and CSV (Comma Separated Values).

These file types can be opened by Excel or similar spreadsheet programs; each form is represented by a row and each form field by a column.

The field labels in the forms become the header row texts for the spreadsheet columns. All form field types can be handled, except signature fields. This export is available, even if no PDF file is loaded; any open files will be excluded.

To export efficiently, users should make sure that all forms have the same set of field names. Multi-page forms can be processed. One PDF file per form is recommended, but a single PDF containing a set of assembled forms is also acceptable providing the form field sets are identical.

If there are field differences between forms, all non-identical field names generate columns in the output file.

To export data, click the "Import/Export Data" button in the "Forms" tab. From the menu, select "Export Data from Multiple Forms".
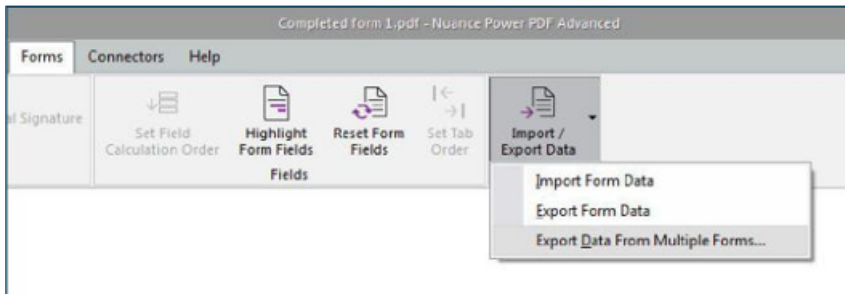
Now users click on the button in the open window to add files, and select the ones they want (PDF or FDF). In the example these are filled-in forms 1, 2 and 3:
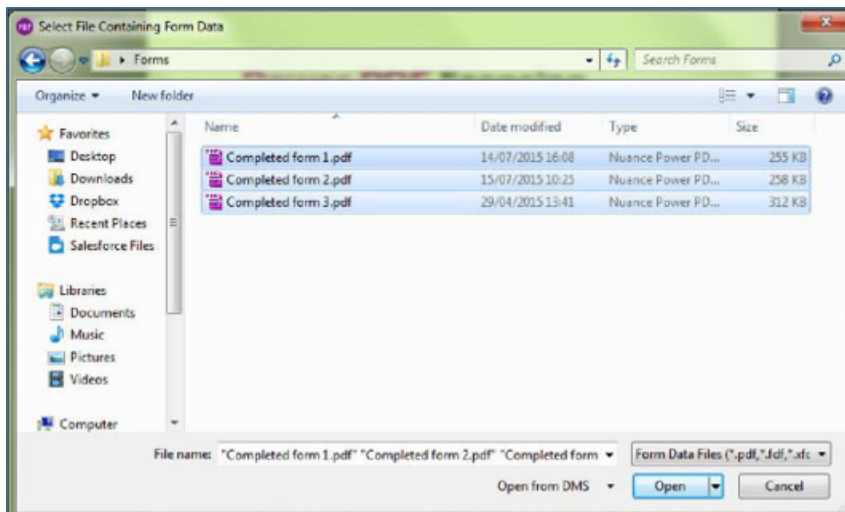
To open several files at once, users hold down the Ctrl key and click the files they wish to open, or hold down the Shift key and click the first and last file in a list to select them all. Then click "Open" to load the selected files. They are now displayed in the "Export Data from Multiple Forms" window:
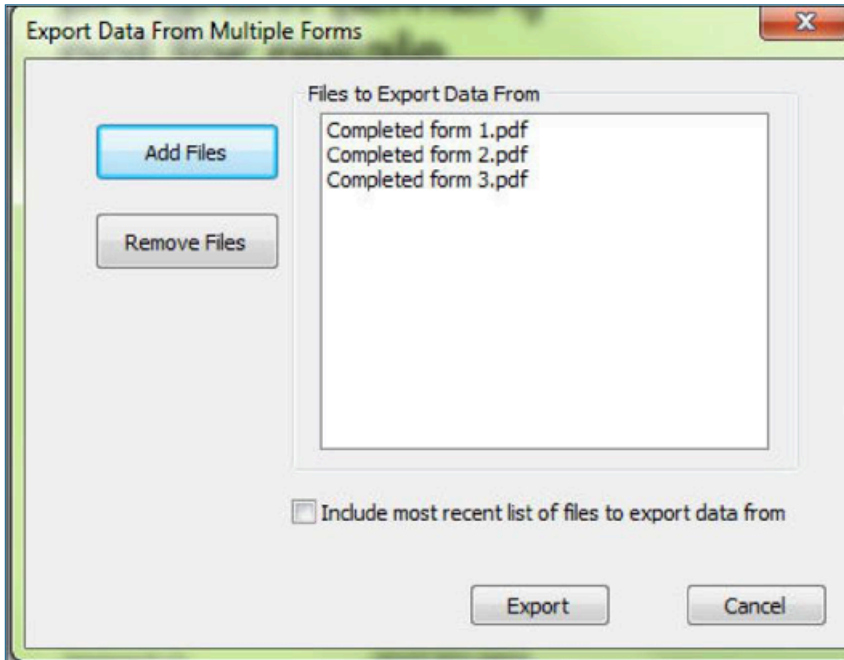
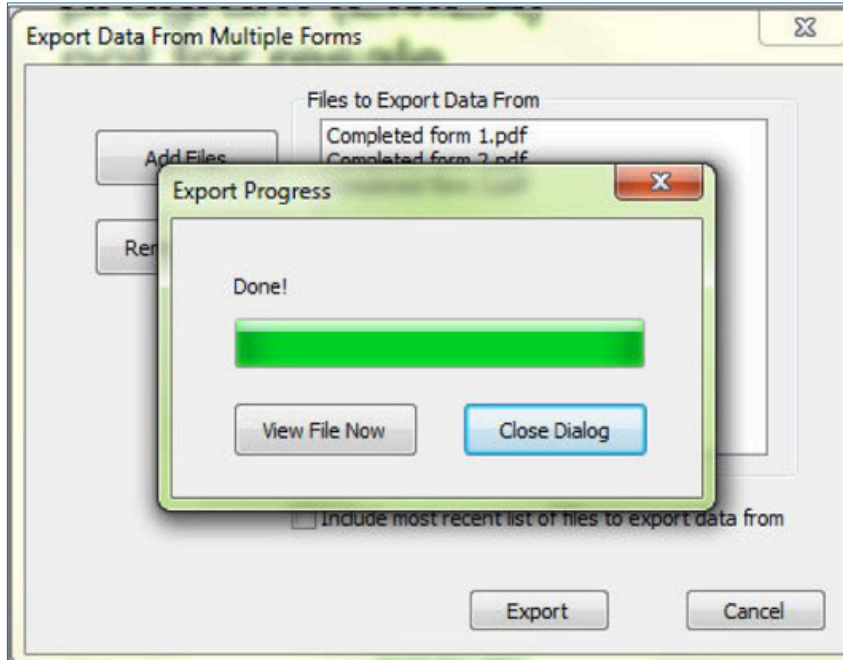To add more files or remove files from the list, click the "Add Files" or "Remove Files" button.

If users would like to select all the forms from the last export session, highlight the "Include All Forms from Last Export."

Once users have added all the files containing the data they wish to export, click "Export." The Export dialogue box opens:
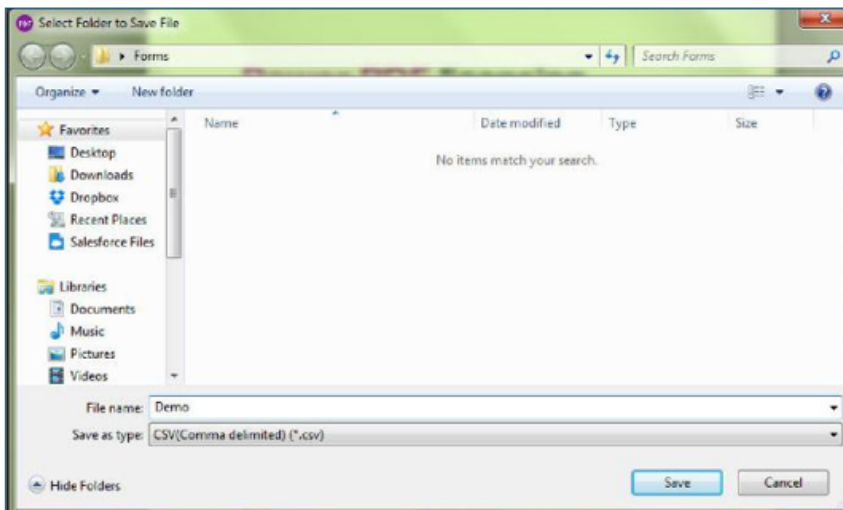
Select the folder, file name and file type (CSV or XML). Then click "Save."

The export file is created and an Export Progress window displays.

Users click "View File Now" if they wish to see the result displayed in their spreadsheet program.

All fields in the resulting table have a generic cell type that accepts any input. Users can utilize their spreadsheet program to set other cell types such as date, currency, numbers only, etc.

They can also Rename column header texts as desired, which is something they might need to do for checkmark or radio button fields.

About Nuance Communications, Inc.

Nuance Communications, Inc. is a leading provider of voice and language solutions for businesses and consumers around the world. Its technologies, applications and services make the user experience more compelling by transforming the way people interact with devices and systems. Every day, millions of users and thousands of businesses experience Nuance's proven applications. For more information, please visit: www.nuance.com.