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Building the Next Generation of GovTech Applications

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In the first part of our series on GovTech applications, we looked at some of the technology challenges facing the public sector and identified what government agencies need from their software solutions. For part two, we'll focus on what steps GovTech developers can take to ensure that their applications have the right features and capabilities to meet these often complex requirements.

GovTech Differentiators

With so many government organizations moving to upgrade their technology stacks and adopt new applications that allow them to improve efficiency, the race is on for GovTech developers to build the solutions that meet those needs.

Due to the complexities of government procurement, agencies often don't have the luxury of purchasing and implementing multiple software platforms to solve for a variety of use cases. That makes it more important than ever for GovTech applications to differentiate themselves with a broad range of capabilities that can solve several problems at once.

Unlike the private sector, government agencies are highly constrained by the year-to-year budgetary process, which makes it difficult for them to make large technology investments. By partnering with GovTech software developers that have the ability to continually grow and make improvements within their products, public sector organizations can rest easier knowing that they have the flexibility to scale capacity and capabilities in the future.

In order to stand out in the market and help their government customers meet present and future challenges, GovTech developers need to make sure their products always address four key areas including security, control, citizen experience, and continuous updates.

Security

Most GovTech systems will end up handling large amounts of private data. Protecting that data from unauthorized access should be the number one priority of any software solution. Applications should always be built upon a framework that's compliant with information security requirements. Even the slightest vulnerability could take a GovTech application out of consideration for a government contract, so it's critical to consider compliance standards at every stage of the development process. In many cases, that means eliminating external dependencies that could potentially expose private data to risk.

Control

Although often considered a subset of security, control plays a particularly important role when it comes to GovTech applications. Simply having a secure system isn't always enough to mitigate risk when it comes to sensitive private information. Government agencies need to have the ability to control internal access to data, records, and other assets to prevent human error and insider threat from compromising security. As more government employees transition to remote work, managing control over documents and other files will become even more critical for safe and effective collaboration. Without these tools, GovTech applications may struggle to find broad acceptance.

"Citizen" Experience

Software developers spend a lot of time designing features that provide a positive customer experience. When it comes to public-facing GovTech applications, however, the focus needs to be on delivering a good "citizen" experience. Government organizations are coming under increased pressure from the public to provide digital services that match the experience users demand from other industries. In a world where people can easily access their financial information from a mobile banking app, for instance, there is no reason why they shouldn't expect the same from accessing personal data held by a government agency. If GovTech developers want to differentiate themselves in a crowded market, they will need to invest in intuitive functionality that seamlessly connects government organizations to the citizens they serve.

Continuous Updates

The long lifecycle of government technology means that agencies need applications that can be updated to meet their needs for years to come. None of them want to end up like the Internal Revenue Service (IRS), which is still storing and processing tax records using software that's over 50 years old and written in long-obsolete coding languages. By offering flexible solutions along with ongoing support and feature improvements, GovTech developers can help organizations scale services over time and adapt to changing needs and circumstances. This is especially crucial as compliance requirements and agency missions often shift and may require key applications to be upgraded accordingly.

Essential GovTech Features

While the leading GovTech applications offer a broad range of unique and innovative capabilities that target different agency needs, they also need to have a few essential features to leverage their potential more effectively and stand out from competing platforms. These features are often outside the core specializations of the development team, which is why many GovTech software vendors turn to specialized SDK and API integrations rather than building them from scratch.

Document Viewing

Governmental organizations typically have to manage massive amounts of paperwork. As documents have transitioned to digital formats, the ability to view or convert multiple file formats has become an essential function for government applications. Whether they're using an imaging toolkit to clean up and convert documents for viewing elsewhere or a completely integrated HTML5 viewing solution that provides viewing entirely within a secure application, GovTech developers can make it easier to manage and share documents without resorting to external viewer programs. This is even more important for government agencies that handle many different file types and need a unified solution for viewing them all, regardless of format.

Annotation & Collaboration

Annotations come in many forms, but the ability to edit and markup files is an essential part of productive collaboration. When multiple participants have the ability to download and edit files, however, they could all end up working from separate files and never comments or notes from others. Even worse, the original version of a file can easily be lost in the shuffle if no strict controls are in place. Building annotation support directly into a GovTech application not only ensures that everyone is marking up the same document, but also that the original file image will remain unaltered in case it's needed for archival purposes or reference. When annotation features are incorporated into the solution itself, there's also no need to rely on potentially risky external programs.

Secure Redaction

Government agencies often need to share documents and other files between themselves or make them available to the public. This commonly occurs with Freedom of Information Act (FOIA) requests, which require an agency to produce a variety of government records. But government documents often contain private data or information deemed to be sensitive for national security purposes. In such cases, redaction tools can be deployed to remove names, words, passages, or images without burning them into the original file. When redaction capabilities are built into an application, it's even possible to tag redactions with reason codes that explain why they were concealed.

Forms Processing

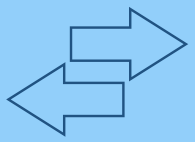
As the principle information-gathering tool of any bureaucracy, forms have a variety of uses across the government sector. Even a small municipality can process thousands of forms each month across multiple departments in the form of inspection requests, permit applications, and police reports. The information contained on these forms needs to be entered into digital records and fed into systems that manage various government services, which can take thousands of work hours each week if done manually. Automated forms processing solutions can quickly identify forms based on stored templates and help GovTech applications pull the necessary data from them and file them in the appropriate database almost instantaneously.

Data Capture

While structured forms are a key source of government data, agencies also frequently need to extract data from other sources or deal with unfamiliar forms. That's when having GovTech applications with Optical Character Recognition (OCR) and Intelligent Character Recognition (ICR) capabilities can prove incredibly valuable. Rather than reviewing every document or image received manually, the data capture solution can quickly read the contents to produce a searchable text document. When incorporated into an automated workflow, data capture capabilities can greatly enhance speed and accuracy. The ability to extract data from a broader range of files also makes it much easier for citizens to submit supporting materials that so often accompany requests for government services.

File Compression

As government organizations continue to gather data, they must also think about how they can store it efficiently. While digital storage technology has improved immensely over the last twenty years, agencies still need to be mindful about how they manage data to get the most out of their available resources. That's why the ability to compress large files, especially images, into more compact form for efficient storage should be considered an essential feature for GovTech applications.



PDF/A Conversion

Although PDF has become the de facto standard for electronic documents, the format causes a few problems when it comes to archival preservation. Generally speaking, a standard PDF contains only the information necessary to render the document in a viewer and print it. Additional content, such as special fonts, encryption data, color information, or raster images, may rely on the capabilities of the viewing software to display properly. This creates a serious problem for archival storage, since archived documents may need to be retrieved and viewed using different software. The PDF/A format is a special ISO-standardized file type designed to be completely self-contained. All information needed to display the document is embedded within the file. Many government agencies have already transitioned to using PDF/A for compliance purposes, so GovTech applications need to have the ability to convert existing documents into PDF/A.

GovTech Team Impacts

Building innovative software solutions that streamline processes and break down the barriers between citizens and government agencies is challenging enough given the strict regulatory environment surrounding the public sector. Software developers working on GovTech applications must also navigate the complex needs of legacy operating systems and software to ensure that government customers will be able to implement their products and utilize them to their full potential.

And that's to say nothing of conceiving and designing the innovative features that will set their application apart from competing solutions. Whether it's predictive machine learning algorithms or database management tools that break down barriers between departments, there are plenty of GovTech innovations waiting to be built and implemented at all levels of government. In the end, it's these features that will be the true differentiator for GovTech software developers.

In the rush to build the next generation of GovTech solutions, developers consistently face limitations in terms of time and resources. Implementing essential functionality like viewing, forms processing, and PDF/A support can be challenging because they are complex features that take time, care, and expertise to implement correctly.

Unfortunately, getting them right often means pulling valuable development resources away from the core value-add innovations intended to help an application stand out in the marketplace. That means extending deadlines and potentially delaying time to market, which increases the very real possibility of a competitor pouncing on a government contract.

GovTech developers can avoid this problem by turning to proven software solutions in the form of SDKs and APIs. Rather than forcing engineers to become experts in every aspect of software development, companies can keep their best talent focused on designing innovative new features rather than building basic functionality from scratch. There's no need to build out a new viewing solution, for instance, when developers could simply integrate an existing HTML5 viewer into their application using a REST API.

Working with a specialized vendor to implement essential GovTech functionality has a few additional benefits. Since the vendor has a great deal of expertise in their solution, they will be better equipped to resolve any issues and provide support when things go wrong. That puts less maintenance strain on GovTech teams in terms of troubleshooting and creating accompanying documentation for their software.

Choosing the Right Integrations

Deploying proven, ready-built software solutions helps developers devote more time and energy to the features that will help to land forward-thinking government customers and keep them ahead of the competition in a crowded market. Choosing the right integrations and the right partner for the task, however, is a bit more complicated than it may appear. More than simply selecting another vendor, developers need to consider several aspects of a potential SDK or API vendor before they embark upon the integration process.

Ease of Integration

This one may seem obvious, but the last thing a GovTech developer wants to do is implement software features that cause them nothing but trouble. From compatibility issues to unsupported feature sets, there's no shortage of potential pitfalls when integrating software tools. Developers need to vet and assess potential services very closely and make sure they understand all the requirements and dependencies involved to avoid costly delays when the time comes to integration. Transparency about products and features is critical. If substantial changes need to be made to an application in order to integrate functionality, any time and resources saved by turning to an SDK/API integration could end up being spent anyway.

Dedicated Customer Support

GovTech developers don't want to find out that they're on their own when the errors start showing up a month after implementation. Here is where turning to a software vendor who specializes in SDKs and APIs outshines opting for open source solutions. When a GovTech developer builds features upon an open source framework, they often find themselves dealing with new issues or challenges in the subsequent years. In a worst case scenario, they may have implemented a variety of solutions in years past and no one knows how to untangle the web to identify what's causing problems. By working with dedicated partners that offer comprehensive support for their integrations, GovTech firms can avoid this situation and resolve any issues that arise quickly.

Years of Experience for a Trusted Partnership

Since GovTech applications face a number of unique requirements, it can be challenging for newcomers in the sector to be able to navigate compliance challenges or deal with the vagaries of the appropriations process. That's why it's important to work with a partner who understands the needs and concerns of GovTech developers. Experienced SDK and API vendors have already gone through the process of implementing their products into software applications intended for government use. They're less likely to be surprised by unusual requirements or use cases and may even have the resources or partnerships to call upon to resolve unexpected challenges.

Innovative Features

Just as GovTech developers are always working on the next big innovation for the government sector, software companies that build content processing and viewing solutions are constantly thinking about how they can increase performance for their customers. This helps ensure that SDK and API integrations will continue to improve and bring new features to government clients for years to come. As innovative new capabilities become available, developers can find inventive ways to implement them in their products to extend functionality and usability, all without having to invest in developing those features. It's a great way to future proof applications, ensuring that capabilities will continue to grow across all areas.

Clear Documentation

Although SDK and API integrations make it much easier to deploy new capabilities within a GovTech application, they still require some time and effort to customize for each particular use case. If the solution runs primarily on the back end, for instance, many of its features will need to be configured programmatically. Even more user-oriented features, such as a JavaScript PDF viewer, have a variety of customizable options and controls that need to be implemented according to the GovTech application's needs and requirements.

That's why having clear and up-to-date documentation for SDKs and APIs is so important for developers looking to integrate new features. Software documentation can provide them with detailed guidance that walks them through key implementation steps, shows how to customize certain features, and identifies known issues that may be confined to only a few unique use cases. The best documentation sets contain code samples in multiple programming languages to show exactly how to accomplish key processes and enable optional capabilities.

Conclusion

Building a successful GovTech application may be a difficult undertaking, but developers can put themselves in a much better position by turning to specialized SDKs and APIs to implement core features that are outside their primary areas of expertise. Integrating ready-made solutions allows them to focus more on other important differentiators so they can offer more benefits than their competitors and get their products to market more quickly.

Of course, choosing the right partner when it comes to those integrations can make all the difference in the world. That's why our third and final guide will focus on Accusoft's collection of industry-leading SDK and API software integrations and take a closer look at how they can unlock the full potential of your GovTech application.

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