



Software Solutions

Application Features to Consider Before You Invest in Technology for your Flight Department

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OVERVIEW

Managing a flight department has come a long way over the past 20+ years. The most successful departments have learned how to leverage and evaluate software solutions for operations and maintenance.

The inner workings of these solutions vary considerably from one provider to another. Instead of perpetual licensing application models, annual downloads and user interfaces, the industry has moved to subscription-based business models, the cloud and mobile solutions. Perhaps the biggest evolutionary step has been facilitated by smartphone technology, which has enabled 24/7 access to business applications. As well, the cloud provides a forum for web-scale services and we now hear jargon like HTML5, CSS3, Hyper-Visor virtual machines, cloudlets and Web 4.0.

But what do these acronyms and techy words mean to a DOA or DOM who is considering enrolling in electronic maintenance tracking and management technology, or implementing and integrating the latest operations and scheduling solution?

The following outlines a few of the top functional elements of an aircraft maintenance solution to consider that will help ease the transition, facilitate user experiences and ensure data security.

CLOUD CONSIDERATIONS

It used to be that applications were largely hosted on-premises, which in turn required a company to have an IT department with expertise in servers and networks, along with administrators to manage the infrastructure, roll out upgrades, etc. The cloud, of course, limits IT overhead by hosting everything from a network of remote servers, thereby freeing resources to focus on core business opportunities and providing more reliable solutions.

Cloud storage enables users to store and manage vast amounts of data and provides secure archiving. It also facilitates speedy data synchronization between the device and any other desktop or device chosen by the user.

In today's development environment, look for 100% cloud-based software as a service (SaaS) or an on-demand platform that does not require any local software installation and supports a wide range of

operating systems and browsers. A cloud solution should be geographically dispersed with redundancy to minimize the chance of a service disruption.

One other consideration would be to look for solutions built since the advent of the modern cloud data center (post 2006) in order to take full advantage of the cloud's value in areas such as performance, reliability and costs. Older legacy solutions that have been ported to a cloud setup frequently suffer from being a square peg in a round hole.

Resiliency is also key. The cloud enables data distribution across geographically dispersed data centers to provide recovery in the event of a catastrophe such as an earthquake, hurricane or terrorist attack. For a DOM, data distribution adds a layer of security and confidence because all data, especially vital log book information, is still accessible.

NATIVE MOBILITY

In the world of mobile devices, look for 100% native mobile applications for iPad, iPhone and Android devices.

A native app is developed specifically for use on a particular device; therefore, it relies on the functionality of that particular device to operate. It installs directly onto a mobile device, thereby providing a smoother user experience and faster app performance.

Beware the electronic maintenance management solutions that have web or hybrid apps delivered through a native app — performance could suffer.

The biggest advantage of native apps is that they are more reliable and efficient than websites packaged as apps. Native apps will operate like the other apps on the device that the user is already accustomed to and will only need to transfer the core data across the wire (not the look and feel of web pages) so they will perform better as well. A native app will generally be less clunky than a hybrid alternative.

Still unsure? Look at the release history for any mobile app in your app store to see how much a company invests in them. Are the apps updated regularly? Are they updated once a month or once a year?

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SECURE CONNECTIONS

Security is, of course, paramount in any business application.

Make sure all hosting is done in highly secure SSAE18 data centers with state-of-the-art physical and cybersecurity on geo-replicated servers. Geo-replication systems improve data distribution.

Systems should be facilitated by modern, trusted cloud service platforms such as Amazon Web Services (AWS) or Microsoft Azure. Ask about multi-factor authentication (MFA), an access control methodology that requires users present several separate pieces of information to gain access, such as a login ID/password and a confirmation code sent to their cell phone.

Here are a few questions to ask:

- Are the data and systems hosted within the U.S. with full database backups created daily with incremental backups performed as transactions occur?
- Does the security system protect against common attacks such as SQL Injection, XSS vulnerabilities and other common exploits?
- Is the system monitoring continuous and service level agreement (SLA) uptime close to 100%?

In today's mobile environment, security takes on an even higher priority. All data should be 100% encrypted. This is your data; there shouldn't be an option to store unencrypted data. Make sure that any solution you select is built with modern techniques, in other words, solutions that were built after the invention of the smartphone (i.e., after 2010), because mobile-focused security features followed after very quickly.

THE USER EXPERIENCE

Finally, the user experience is all-important when transitioning to an electronic aircraft maintenance solution. Evaluate multiple vendors and programs. Just because one program works for one operation does not mean it will work for all flight departments. Develop a list of specific must-haves and nice-to-haves for you and ask vendors for an implementation plan.

When evaluating a solution, ask questions about the system architecture. Is the interface as easy-to-use as a Facebook or Google application? Does it support two-way communication? What is the cost of training?

In short: newer, modern-looking applications built on native apps and secure trusted cloud platforms will behave more intuitively and cost less to onboard new users.

Now that you have the infrastructure for electronic record-keeping, see what new features and functionalities can help drive user experiences and productivity.

