National Refrigeration and SmartPad4i

Background:

National Refrigeration, located in Brantford Ontario Canada is a manufacturer of commercial refrigeration equipment.

A wide range of condensers and evaporators are built both as standard stock units and also a high number of customized, engineered to order products.

It is a fairly small operation, with about 180 hourly employees on two shifts.

It is, however, a very busy operation with 10 fork trucks constantly moving material from Receiving to the Warehouse, and ultimately, to the Production area.

Tracking the material movements has always been a challenge and a source of frustration and errors.

We have about 8,000 individual stock items and about 1,500 bin locations.

Most material is either large components or multiple boxes of material that arrive on skids and are moved around on the skids.

Our System:

We use an IBM iSeries (AS/400) running an ERP system from Jobscope to help us manage our Inventory.

While the application does allow us to use hundreds of bin locations and track inventory counts at each location, the information is frequently inaccurate, since the operators do not record exactly where and when material is moved.

It would be impractical for them to write down or find a terminal to enter the information, so it is simply not done.

We have default locations for each inventory item, but if that location is full of material, the operator will simply find an empty bin location and put the material there.

Hopefully, when we go to use the material, the operator will remember where he put it, however, we have had instances of having to reorder material because we simply cannot find it.

Our attempt:

An attempt had been made prior to my arrival 5 years ago, to use a handheld computing device.

It had a small screen with tiny buttons and it was never clear to me how they proposed to manage inventory with it.

I envisioned a mobile tablet device with a graphical interface that would allow the operators to point and click, use drop-down boxes and a bar-code reader to make it fast, efficient and easy for them to record and track inventory movement.

About two years ago I began researching to see how we could find a solution.

I have been an application developer all my career and being the only full time, onsite IT person in the organization, I was hoping to find a solution that I could easily use without involving outside support or custom software development.

I've always used RPG and continue to adapt our ERP solution using old "green screen" interfaces, but it keeps the company running.

The solutions:

I was reviewing an IBM Redbook on Modernizing IBM iSeries Applications and web searched a list of potential vendor solutions. I was looking for something that was easy to use, didn't have a long learning curve, and was relatively inexpensive.

The first solution I investigated had a proprietary software application that I would have to learn and it was fairly expensive.

Further investigation led me to a solution that claimed I didn't have to have any web development skills and could write the application in my familiar RPG skills.

I was very intrigued.

Using SmartPad4i:

Smartpad4i literature (at the time), listed Blackberry as one of the target devices which is what we still use, so that was a potential bonus.

We don't use IOS (Apple), but I felt that we could make use of Android tablets fairly easily.

I thought that if the software really was that easy to use and that I could develop in RPG, then I just wanted to get my hands on the product and give it a try.

I didn't bother with a demonstration and contacted SystemObjects to see if I could get a demo evaluation copy of the software.

They sent me a download link and it came nicely packaged with a test Apache web server that I could install on my Pc and a development tutorial manual that stepped me through how to create my first iSeries based web interface application.

I had taken a night-school course on HTML, so I was already somewhat familiar with html code.

This was the area that was most new to me since I had never developed a real application.

But any problems or questions that I had about HTML, SystemObjects was very quick with answers and solutions.

Following the tutorial was easy and with that experience, I felt that I was ready to try developing my own application.

It was a bit of trial and error, but again, SystemObjects was always there to help me with any questions or problems.

I was quite surprised and impressed that I was accessing iSeries data using a web browser.

The Designer tool that builds the shell of the application is fairly straight forward, and the RPG code that came out is very easy to follow.

Once you understand the structure, it's easy to insert your own application code exactly as if you were creating a green-screen application and the code generator from SystemObjects takes care of all the rest.

We've so far only done demos of the program to show people how the application will look to the operators, but everyone is very enthusiastic about what they have seen.

To build the application was probably the smallest part of the project.

We have yet to get our Warehouse completely labelled with bar codes and we have to outfit all our fork trucks with mobile tablets and scanners.

There is also quite a bit of modification work taking place in our ERP system to handle this change.

Up until now, the users had developed their own tricks to manage inventory and had been using "phantom" locations.

When we implement the system later this year, every location will have to be a "real" location so that we will always know exactly where the material is located.

I will probably have some "tweaking" to do as we test the application in the real world, but I am confident that SystemObjects will be able to give assistance as required. I'm also sure that once we have this first application running there will be many more opportunities to build on this knowledge.

Once the first application is done, it's easy to replicate and create new applications.

Conclusion:

The first application is done, it's easy to replicate and create new applications.

What I really like about Smartpad4i is how close it is to just developing and old "green screen" application, which allows me to continue to code the way that I always have.

The only real difference is defining how you want the screen to look in HTML and the rest is all done in RPG.

Smartpad4i takes care of all the web interfacing logic. You continue to use "subfiles" and all the regular programming that you are used to.

I would highly recommend the product to any traditional iSeries RPG/Cobol organization that wants to use a modern web-based application without having to worry about learning a lot of new technology and keep all development in house.

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