

The Business Case for IBM i Green Screen UI Modernization

Learn how IBM i web and mobile applications add value to your organization by driving revenue, increasing competitive advantage and delighting end users.



Table of contents

Summary	3
Drive revenue and gain competitive advantage	5
Increase end user productivity	7
Improve workflows and add new functionality.	9
Anywhere, anytime access for employees, partners and clients	11
Improve business processes with mobile devices	12
Future-proof apps and leverage IBM i resources	15
Reduce training costs and onboarding time	17
Integrate with other technologies, platforms and data sources	18
Solutions for all of your IBM i UI modernization needs	21
A phased approach to UI modernization	23

CREATED BY THE FOLLOWING IBM i MODERNIZATION EXPERTS:

Writer: Marcel Sarrasin, VP of Marketing and Business Development
Designer: Menno van Mil, Design Manager

Writer: Greg Patterson, Senior Sales Engineer
Editor: Candice Schultz, Marketing Program Manager



Summary

Applications and data are the cornerstone of over 150,000 organizations that run mission-critical business applications with IBM i on Power Systems (formerly known as AS/400). The platform's low total cost of ownership, reliability, security and integrated database make it easy to understand why its users are so passionate about it.

Too often, the value and potential of IBM i applications is hidden behind green screen interfaces, which results in a decision to replace or rewrite them and question the platform. These projects can span multiple years, cost millions of dollars and exceed budget and timeline. Sadly, they also don't deliver the same functionality as the original application did.

Organizations are maximizing their investments in IT and aligning with business needs by modernizing the UI of their IBM i applications and extending ERPs to the web. This gives organizations a competitive advantage while providing partners and clients with self-serve access to their applications. Modernization projects such as these are narrower in scope and much lower risk than large scale transformation projects.



Summary

Delivering modern web and mobile applications offers additional financial advantages. Organizations can increase end user productivity and improve workflows by replacing pen-and-paper processes with direct access to applications via browsers on PCs, Macs and mobile devices. New functionality, such as dropdowns, can lead to faster data entry, while a familiar interface with consistent navigation can reduce training costs. Using web technologies (such as Open Access and open source) provides opportunities to integrate with other systems and improves the agility of your organization.

There are many options for approaching green screen modernization and depending on what your goals are, the solutions will vary. In this eBook, you will discover the top business reasons for IBM i UI modernization and some of the ways you can approach these projects.

Drive revenue and gain competitive advantage

Revenue growth is one of the most tangible benefits associated with delivering web and mobile applications. As more organizations compete against online companies such as Amazon, it's becoming increasingly important to deploy solutions that are mobile-friendly and search engine optimized.

Many organizations develop B2B or B2C eCommerce or Order Entry applications that enable customers and partners to place orders online from any device. These applications are highly scalable, allowing you to expand into new markets while leveraging your existing business logic and integrating with your ERP.

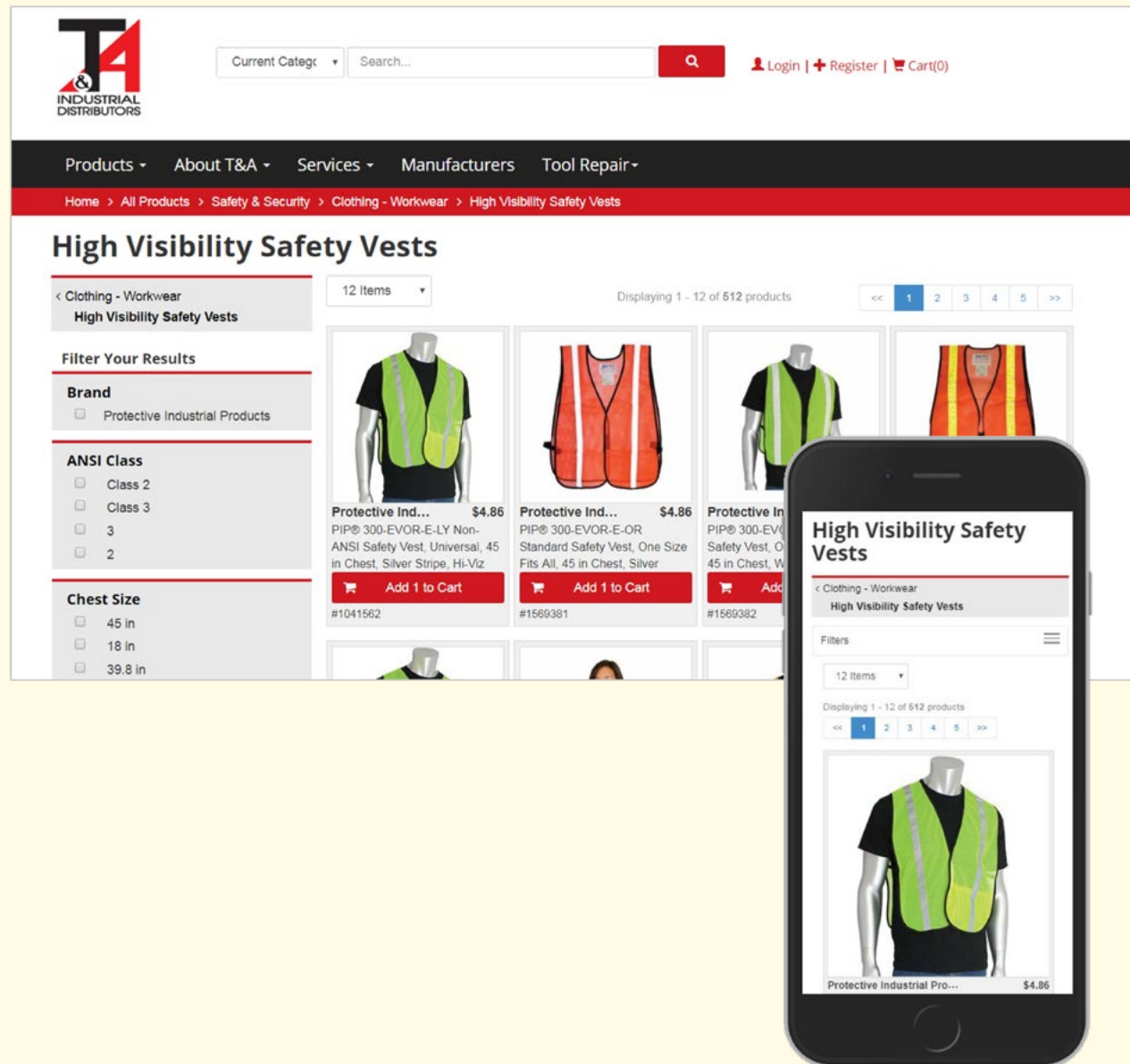
While this may sound like a large, expensive effort, it's often not about making all 2,500 of your screens available on the web. Offering self-serve access to a single application or 20-30 of your screens could free up customer services representatives to focus on more productive tasks. It could even make the difference between your customer buying from you or the competition.



Enabling customers and partners to place their own orders gives you a competitive advantage over organizations that still require customers to place orders over the phone.

Drive revenue and gain competitive advantage

CASE STUDY



- T&A Industrial developed a mobile-friendly eCommerce application that drives revenue by enabling customers to explore products and place orders online any time, on any device.

The IBM i-hosted application improves service because customers no longer have to place orders over the phone. Its intuitive interface and search engine-friendly code further encourage new sales.

Increase end user productivity

Green screen modernization offers value above and beyond an attractive interface for applications. A well-designed web application should perform better than a green screen and increase productivity by reducing keystrokes and errors. Each small gain can lead to significant time savings.

Here are additional ways you can increase productivity with web and mobile applications:

- **Speed up data entry and reduce errors:** Incorporate drop down lists, datepickers, radio buttons and autocompletes to reduce errors and the time it takes to look up and enter data.
- **Improve navigation:** You can replace function keys and subfile options with clickable links and buttons to provide a more intuitive and consistent way to navigate screens. Tabs also make information easier to digest.

Increase end user productivity

CASE STUDY

The screenshot displays the 'DISTRIBUTOR' web application interface. On the left is a sidebar with navigation links: 'All Documents', 'Invoices', and 'Sales'. The main content area is titled 'Search all documents'. It includes a 'Date Range (MM/DD/YYYY)' filter set to '06/18/2015' to '06/18/2015', a 'File Type' dropdown menu, and a 'Search' button. A calendar widget for June 2015 is open, showing the date 18th selected. Below the filters is a table of search results. The table has columns for 'File Type', 'Document Title', and 'Date'. The results list various documents, including 'Purchase Invoice', 'Sales Payment Confirmation', and 'Fat Penguin'. At the bottom, there is a 'Download Selected' button and a status message 'selected: 1 clear all'.

File Type	Document Title	Date
PDF	Fat Penguin	05/29/2015
PDF	Brown Tiger	05/29/2015
PDF	Pink Meerkat	05/29/2015
PDF	Intelligent Lamp	05/29/2015
PDF	White Badger	05/29/2015
PDF	Cloudy Turkey	05/29/2015
PDF	Blue Panda	05/29/2015
PDF	Little Hamster	05/29/2015
PDF	Content Phone	05/29/2015
PDF	Silly Squirrel	05/29/2015

- A Fortune-500 wholesale distributor partnered with Fresche to develop a mobile-friendly document web access portal that eliminates the need for dealers to call IT to rerun reports and reproduce invoices.

The organization also modernized and mobilized their green screen based warehouse picking application.

Forklift drivers can now scan bins and use modernized screens on portable devices to complete seven million inventory item picks each year. Touch-friendly buttons make the application easy to navigate and larger fonts reduce errors by making details more visible.

[Learn more »](#)

Improve workflows and add new functionality

Web applications offer many opportunities to add new functionality that improves workflows. Most often, organizations replace pen-and-paper processes by giving personnel direct access to web and mobile applications. This eliminates the need to rekey information and leads to significant time savings. Here are some additional ways you can improve workflows:

- **Charts and dashboards:** Visually represent real-time data to give managers the big picture and ability to drill into details.
- **Spreadsheets:** Create downloadable spreadsheets so users don't have to copy and paste.
- **Videos:** Link to instructional videos on YouTube instead of using text-based F1 help.
- **Images:** Add images of products that users can reference when looking up items.
- **PDFs:** Link to PDFs of invoices and other documents.
- **Maps:** Show address locations with Google Maps to save dispatch or sales personnel time.




See how TMISI's CEO modernized their green screen programs and made users' jobs easier by adding a sales dashboard and improving data entry and screen layouts.

[Watch video »](#)

Improve workflows and add new functionality

CASE STUDY

Medical Laboratory
Medical Laboratories



A screenshot of the 'Microbiology Results and Observations Entry' web application. The interface features a header with the 'Medical Laboratory' logo and a background image of laboratory equipment. The main content area is divided into several sections: 'Worksheet Information' and 'Patient Information' at the top, followed by a form for 'Obs Status' and 'Int Rpt'. Below this is a table titled 'Observations and Results' with columns for 'SEQ', 'Note', 'User', 'Date', 'Time', and 'Options'. The table contains three sections of data: 'MICROSCOPY', 'CULTURE RESULTS', and 'PUBLISHED COMMENTS'. At the bottom, there are buttons for 'Exit', 'Cancel', 'Add', 'Interim Report', 'Default Neg Result', 'Preview Result', and 'Publish Results (FINAL)'.

Microbiology Results and Observations Entry [? Help](#)

Worksheet Information

Barcode : 010
Service Date : 2013-07-30
Test Ordered : WOUND CULTURE
Worksheet : MISC
Bactl # : 000000
Remarks : SITE: ARM SCRAP ARM WOUND

QA TOR

Patient Information
Patient : DOE, JOHN
Age : 62
Sex : M
Physician : M.C. ESCHER
Phone : 123-456-7000
[Patient Inquiry](#) [Patient History](#)

Obs Status :
Int Rpt :
Source :
Vitek :
Last Updated : ESCHER - 2013-02-12 16:51:12

Observation

Comments

Activity

+

Observations and Results

SEQ	Note	User	Date	Time	Options	
MICROSCOPY						
1	WBC	RARE	SMITH	2013-08-17	16:14	P E D
CULTURE RESULTS						
1	MIXED BACTERIA	HEAVY		2013-08-13	15:01	P E D
2	GRAM-POSITIVE C	OCCASIONAL		2013-08-13	15:03	P E D
	Zone	11				P E D
PUBLISHED COMMENTS						
1	SENSITIVITY TO	SMITH	2013-08-13	15:01		P E D
2	FURTHER REPORT	ESCHER	2013-08-15	16:47		P E D

[Exit](#) [Cancel](#) [Add](#) [Interim Report](#) [Default Neg Result](#) [Preview Result](#) [Publish Results \(FINAL\)](#)

- A prominent health care company used Fresche Solutions to give their existing green screens a web GUI. This has increased operational efficiency by streamlining data entry and reducing keying errors. Lab technicians can now record and publish test results on the fly, which has eliminated the delays and errors associated with pen-and-paper data entry.

[Learn more »](#)

Anywhere, anytime access for employees, partners and clients

You likely haven't given business partners and customers access to your applications because green screens look outdated and require the end user to install a 5250 emulator. Repurposing your applications by offering self-serve, browser-based access is a much more attractive option.

You'll provide better service by giving these users the capability to check inventory levels and place their own orders at their convenience. This saves time for customer service representatives who no longer have to take phone calls to place orders or look up pricing and inventory on behalf of customers or partners.

Web-based solutions are also easier to deploy compared to Client/Server applications that require installing the application and its updates on each PC. If you decide to provide access outside of your network, you can use VPN or SSL for security.



- Alpine School District used Fresche solutions to modernize their IBM i applications and give their bus drivers access from outside the district. All employees, including remote users and those who use Macs, can now access the screens from anywhere, at any time.

[Learn more »](#)

Improve business processes with mobile devices

Deploying mobile IBM i applications allows you to extract even more value from the platform. This provides users with remote, convenient access to your applications. It also improves many business processes by replacing paper-based processes that require rekeying, and replacing static information with real-time data.

Here are some examples of mobile applications we've seen used in businesses:

- **Sales representatives:** Pricing, inventory, ordering and CRM
- **CEOs:** View sales charts and other key metrics
- **Warehouse staff:** Scan items for inventory and order fulfillment
- **Teachers:** Take attendance
- **Customers and partners:** Place orders and look up items from smartphones

Using an HTML5 and responsive design approach to web development is a quick way to make your applications available from browsers on all popular devices. You can even create mobile applications that you deploy through an app store to take advantage of that deployment approach and of device-specific features, like using the camera to scan barcodes.



Extract even more value from the platform by giving users, customers and partners the ability to access your applications from mobile devices.

Improve business processes with mobile devices

CASE STUDY

Coral Industries

Logged in as John Pillon | logout

Selected Customer: [change]

Configure Your Shower Door

Return to Quote

Current Configuration: \$0.00

Model: KS601

KS Initial Options

- * Series: Prestige Series
- * Finish: Oil Rubbed Bronze
- * Glass Type: P5 Custom Upgrade
- Glass Thick Door: Clear
- * Glass Thick Panel: Aquaview Custom Upgrade-Sel Series
- * Handle: Niagra Custom Upgrade
- Towel Bar Add On: P5 Custom Upgrade

Dimensions

- * Unit Height Code: [dropdown]
- Unit Height: 68.250
- Threshold Width: 72.000

Unit Height 68.250

Door Width 24.000

Threshold Width 72.000

Return Width 35.000

- Coral Industries used Fresche solutions to develop a new mobile web application for visually configuring shower doors. The application leverages Friedman ERP's APIs to read and write to Coral's existing database.

This integration has greatly improved customer service and processes for the organization: When a user completes a configuration in the app, the order details are submitted directly to the ERP. Lookups are also database-driven, which provides real-time access to information.

Improve business processes with mobile devices

CASE STUDY



"It only took us 10 days of effort to get our initial version ready for delivery."

D. Brunner — Director of Telecom & Wireless Solutions, BakerCorp

- BakerCorp refaced an existing IBM i rental management application and provided a modern, iPad-friendly interface. The project took just 10 days from start to delivery, and has saved an average of 3,500 hours each month across 175 users.

[Learn more »](#)



3,500 hours saved per month across 175 users



Users and customers that love the new application



10 days from start of project to iPad application delivery

Future-proof apps and leverage IBM i resources

Most organizations have the majority of the code, if not all of it, to run mobile and web functionality. Rather than thinking about building big, new, expensive and risky technologies, consider leveraging what you already have.

Modern tools help you easily web-enable existing applications, or you could build some simple new front ends and leverage the business logic you have for ease of use and integrity. Additionally, modularizing your code and using an API-based approach improves the maintainability of your applications. These approaches all enable you to meet your current business needs while providing the agility to take advantage of future technologies, such as AI.

From a human resources perspective, tools are typically designed for RPG programmers, making it possible for many organizations to use their existing staff for these projects. Deploying modern solutions that use conventional web technologies also makes it easier to attract new talent as programmers retire.

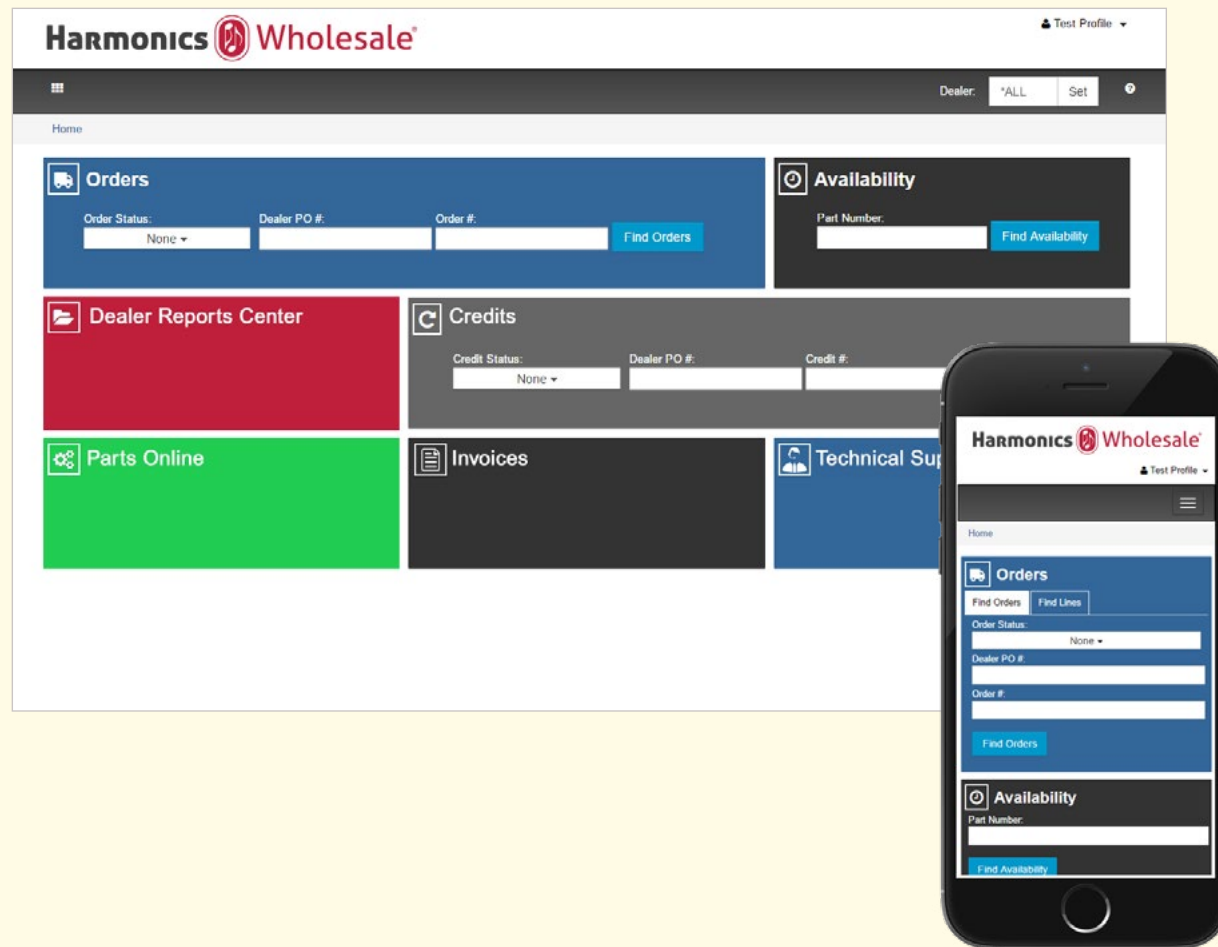
The majority of the functionality and value is already sitting inside your IBM i – it just needs to be set free with a bit of http and some love in the usability area.



Modularizing your code enables you to meet your current business needs while providing the agility to take advantage of future technologies, such as AI.

Future-proof applications and leverage IBM i resources

CASE STUDY



- Prior to engaging Fresche, a parts distributor's customer service representatives were spending too much time helping dealers look up basic transactional information over the phone.

The organization's new responsive portal (left) provides self-serve access to this information via PHP applications, modernized green screens and reporting archives.

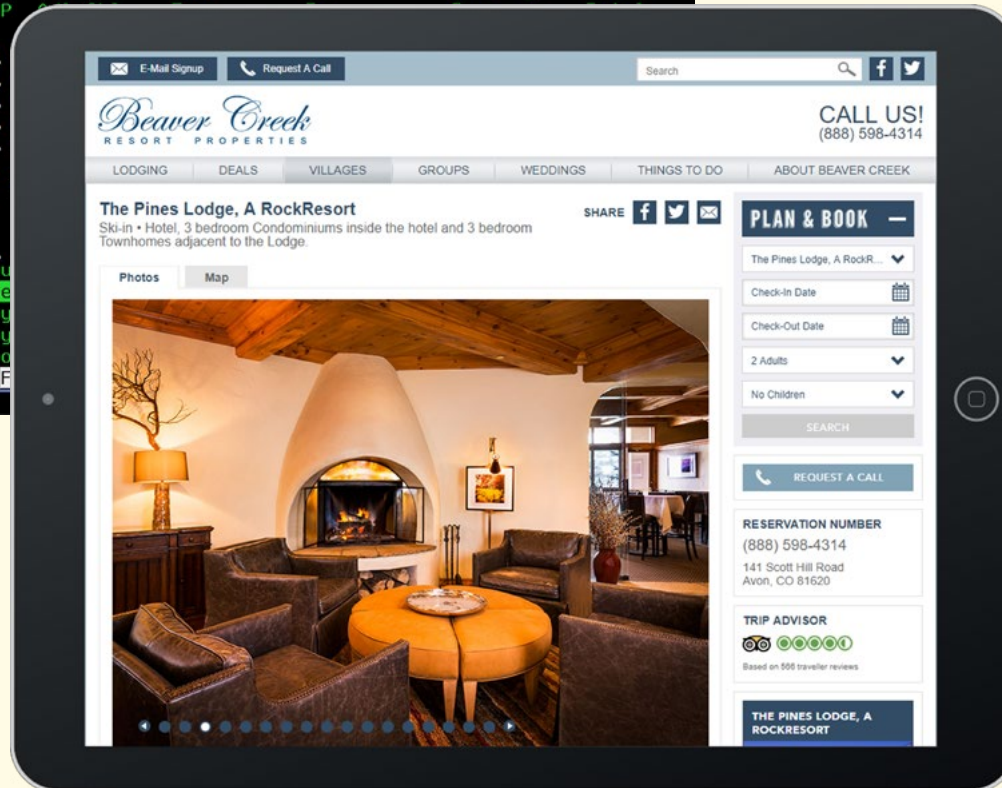
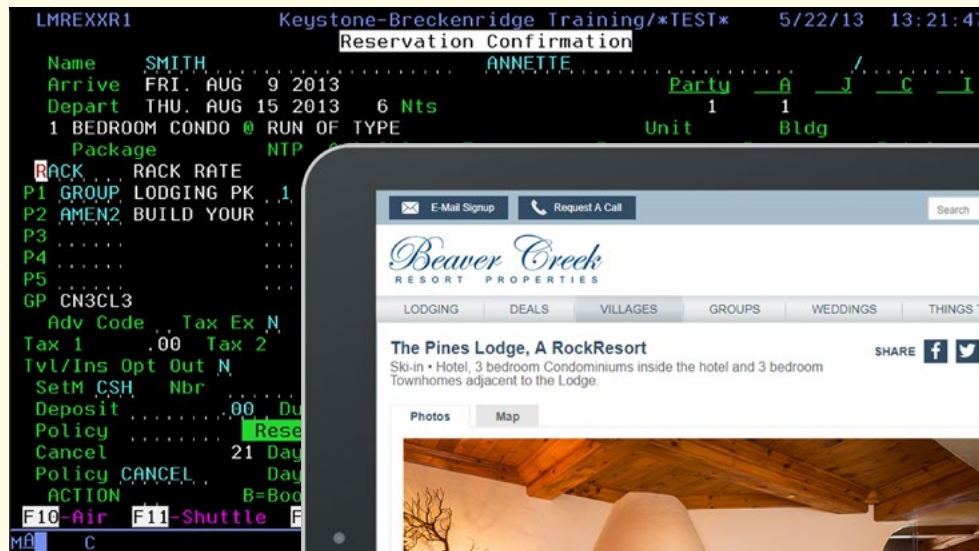
The distributor also decided to modernize their unintuitive green screen order application because it caused connection issues for partners, looked outdated, and required each partner to have an IBM i profile.

The organization's new order entry application is more agile because it uses PHP for the front-end and an API approach with RPG-based RESTful web services. This allows the distributor's existing RPG programmers to leverage and maintain the business rules. It also gives them the flexibility to reuse that logic if any future needs arise, such as sharing with other applications or platforms.

Reduce training costs and onboarding time

It can take a long time to train users who are new to green screens and their unique navigation characteristics (think subfile options and function keys). Not only are web applications similar to what people use on a daily basis, they also have consistent, mouse-driven navigation and intuitive input fields like drop down lists.

CASE STUDY



- Vail Resorts found that training new employees on their 5250-based system was lengthy and challenging.

Vail created web services that bridge the gap between disparate systems, completing the project in just 10 days and eliminating 52 weeks of manual effort.

Since deploying the automated system, Vail has seen a 40% reduction in training costs and have eliminated 3-5 minutes of re-keying data per transaction.

[Learn more »](#)

Integrate with other technologies, platforms and data sources

Web applications are interoperable with other web technologies and enable you to provide a more seamless end user experience. For example:

- **Web application integration:** Link modernized green screens to other web applications to streamline the user experience. You can also leverage web services and APIs for credit card processing and retrieving data, such as shipment information, from other servers.
- **Open source:** Use technologies (*e.g. PHP, Node.js, JSON*) and frameworks (*e.g. Bootstrap*) to speed up development.
- **New data:** Embed new data to your screens from DB2, MySQL or other databases and platforms.
- **Desktop integration:** Integrate your web applications with Windows applications (*e.g. Microsoft Office*) to provide a more seamless experience that saves time.
- **Portals:** Access your modernized applications from web portals that include links to other enterprise information.



Provide a more seamless end user experience by integrating with additional web applications and data sources.

Integrate with other technologies, platforms and data sources

CASE STUDY

“Fresche let us easily tap into the IBM i business process code and quickly develop Web services that improved our invoicing efficiency and eliminated hundreds of hours of manual data entry per year.”

Les Peebles — IT Director of Challenger



- Challenger used Fresche solutions to develop applications that manage and automate how data is entered and processed through their systems. This has allowed them to integrate multiple systems, reduced the time spent on manual data entry for invoicing and greatly reduced the risk of human error.

Leveraging their existing assets as opposed to rewriting them was a huge time saver, and Challenger deployed the solution in weeks as opposed to months.

[Learn more »](#)

Solutions for all of your IBM i UI modernization needs



FRESCHESOLUTIONS

At Fresche, our goal is to provide organizations with the most options available to easily create modern web interfaces, improve productivity, drive revenue and offer an enhanced user experience.

Our key digital transformation offerings, Newlook, Presto, WebSmart and Nexus, give you the flexibility to choose the approach that best meets your business needs and skills.



Solutions for all of your IBM i UI modernization needs

With Fresche, you can integrate with modern technologies, develop strategic applications that generate revenue or extend your ERP, and leverage existing applications while integrating new applications.

- **Application Insights:** Users typically spend 80% of their time on 20% of screens. Fresche solutions provide detailed insights into application usage so you can make the best use of time when modernizing your green screens. This is the perfect place to start your project.
- **Green Screen Modernization:** Quickly go from green screens to a modern UI with native IBM i, Windows-driven or thin client solutions. You have the option to choose 5250 or RPG Open Access.
- **Web and Mobile Development:** Create responsive RPG ILE or open-source PHP and Node.js applications (B2B order entry, eCommerce, invoicing, inquiries and more).
- **SOA / APIs:** : Leverage existing applications to improve agility and create reusable components. Take advantage of modern SOA concepts to integrate applications, publish to the web, improve navigation and boost developer productivity.
- **Portals:** Give users secure, organized access to applications and documents from an IBM i hosted web portal. Make faster decisions and improve information sharing by providing a centralized framework for users to access multiple data sources.

Fresche's flagship IBM i UI modernization solutions:

Newlook

 **WebSmart®**

 **Presto**

 **Nexus**

 **Trials Available**

Contact:
info@freschesolutions.com

A phased approach to UI modernization

Some organizations choose to take a phased approach to green screen UI modernization. This approach is considered lower risk because it provides quick results out of the box and leverages your existing assets.



Quick Wins

- Web enable existing IBM i applications to change the perception that the IBM i is outdated.
- Modern look and feel that is easier for users to learn.
- Increased reach with improved accessibility.



New Functionality

- Enhance the out-of-the-box experience for your most important screens by improving workflows and integrating with modern solutions.
- Use visual elements (*datepickers, dropdowns, etc*) to further improve workflows and increase end user productivity.



Business Improvements

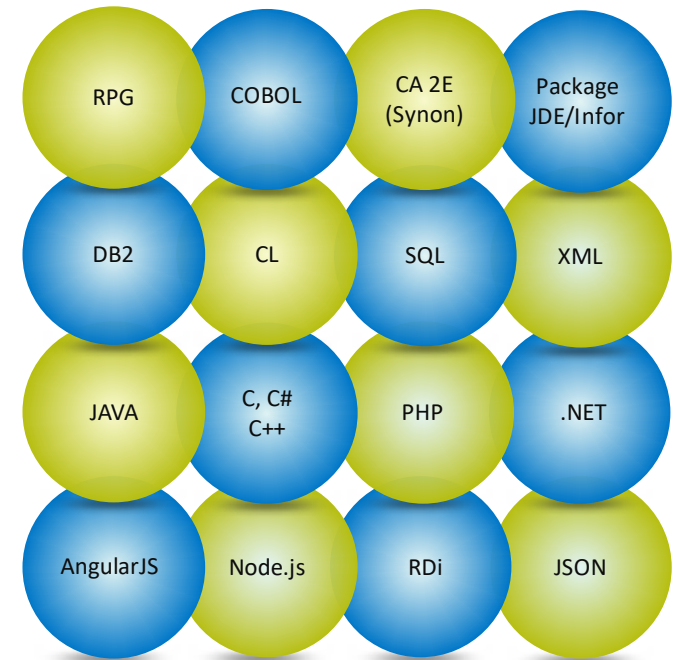
- Drive new revenue and increase competitive advantage.
- Develop new strategic IBM i applications (B2B order entry, eCommerce, invoicing, inquiries *and more*).
- Integrate with other technologies, applications and platforms.

Staffing and application services

Many companies struggle to find staff with IBM i skills, which makes it difficult to maintain and enhance their systems. Our experts can work as part of your team for as long as you need, or you can choose to let us manage your whole project. We meet your IT needs and make sure technology supports your business goals.

- **Replace Retiring Staff:** Replace retiring staff with highly skilled resources to continue maximizing your IBM i environment and ensure business continuity.
- **Get More Done:** Complete projects that may require a wide variety of skills, and free up your internal resources for new, key projects.
- **Reduce IT Backlog:** Reduce your IT backlog with resources who have decades of experience in business application development, and who can also act as a valuable backup to your staff.

[Learn more »](#)



IBM i modernization experts

Fresche is led by a senior management team with decades of experience in the midrange market and in modernization. With over 400 employees and highly skilled experts in all areas of application modernization and management, we are well equipped to help you with all your IBM i application needs.

Here are some of our IBM i UI modernization experts:



Brendan Kay
Chief Technology Officer
20 years with Fresche



Nick Hampson
Product Manager
17 years with Fresche



Chris Koppe
Senior VP, Transformation &
Modernization Services
29 years with Fresche



Trevor Perry
Modernization Specialist
34 years in the IBM industry



Jennifer Fisher
VP, Ecosystems
28 years with Fresche



Mike Pavlak
IT Strategist
27 years in the IBM i industry



Derek Woods
Project Manager
18 years with Fresche



Kevin Cronin
Director of Professional Services
26 years with Fresche



Greg Patterson
Senior Sales Engineer
10 years with Fresche



Marcel Sarrasin
VP, Marketing and
Business Development
17 years with Fresche



Kris Waugh
Project Manager
15 years with Fresche



Chelsea Fenton
Senior Web Developer
10 years with Fresche

Let's talk ! Call [1-800-361-6782](tel:1-800-361-6782) or email us at info@freschesolutions.com.



I.T. can make you smile!

At Fresche you'll find everything you need to maximize the value of your IT and meet your business goals. Our complete portfolio of products and services helps you manage, enhance, and evolve your IBM i applications so you can leverage them to take advantage of modern technology, meet growing business demands and build upon your existing IT investment.

For more information, please visit <http://www.freschesolutions.com>. All other trademarks are properties of their respective owners. This publication may not be reproduced or distributed in any form without Fresche's prior written permission.

Fresche Solutions HQ
Montreal, QC Canada
+1 514 747-7007
Toll-free 1-800-361-6782
info@freschesolutions.com

© 2018 Fresche Solutions Inc. All rights reserved.

All other trademarks are properties of their respective owners. This publication may not be reproduced or distributed in any form without Fresche's prior written permission.

