CSS: Adding Style to Your Content – Patrick Behr

Make your web pages look stunning using CSS. We'll start with the basics of CSS including the cascade, rule precedence, selectors, and declarations. We'll talk about the Box Model, floats, page layouts, and Flexbox. We'll finish up with how to avoid spaghetti code by using CSS style guides (SMACCS & BEM) and pre-processing with SASS.

Interactive JavaScript, CSS & HTML – Patrick Behr

Learn the basics of HTML, CSS, and JavaScript and how they work together to provide interactive web pages. Follow along on your laptop as we build a small interactive web page from scratch. We'll start with HTML5, use CSS to style the page, and then show how to respond to the user with JavaScript. We'll then see how to update the page content and styling based on the users' input.

Latest News on POWER9 Announcements – Charlie Berry

The IBM POWER processor roadmap is marching along on its 3 to 4 year cadence, and as of 1st Quarter 2018 began shipping the first POWER9 systems for commercial applications, including the IBM i platform. This presentation will take a look at the roadmap, POWER9 processor technology, currently available systems, and a hint of what's coming next in the 2018 roll-out plan. IBM and OpenPOWER foundation partners have been cranking up the innovation; we'll take a quick look at some of the cool technologies the consortium has delivered. As usual, POWER9 once again raises the bar for per core performance, we'll show you the numbers. Comparing the last 30 years, or the just the last 3 to 4 years, there is a lot of great new technology inside these new POWER9 systems.

Plan your ROI Modernization Strategy Knowing Common Hurdles and Planning Practices – Floyd Del Muro

When you are building your new Continuous Delivery Pipeline, application changes will no longer happen in a strict linear sequence. To be most efficient, you will be building a learning cycle that allows hybrid development teams to establish a number of hypotheses, build and deliver against them, measure results and learn from that work. This rapid delivery of small iterations is key to a Modernization approach. To be ready to release at any time, you require a continuous flow of value through the system. Join us for this informative workshop on Modernization implementation experience and provide an open discussion on how to apply processes for Continuous Exploration, Continuous Integration and Continuous Deployment to build and measure a Continuous Delivery Pipeline for your Modernization and DevOps strategy.

Writing Better SQL – Jim Denton

Most of us have been successful at writing SQL statements that get the job done but are we really making good use of SQL? Good SQL works but better SQL takes full advantage of functionality in Db2 for i, is easier to write and extend, more readable, and also provides better performance. This session covers best practices for using SQL including thinking in sets and taking advantage of functionality already provided as part of IBM i.

What's Wrong with My Database? – Jim Denton

A well designed relational database provides a solid foundation for developing flexible and scalable data centric applications. The ability to provide new database functions without

impacting existing applications must be the ultimate objective of all database engineers. To meet this objective, every core business table must contain a set of fundamental relational database constructs that provide an agile (not fragile!) application development experience. Topics will include database core fundamentals, constraints, normalization, autogenerated values, and extending your data model.

SQL Programming - Procedures, Triggers, and Functions – Jim Denton

SQL is so much more than a query language. This session covers the highlights (and not the details!) of how to leverage the SQL programming language and SQL functionality to enhance your database in a data-centric way. This will include the basics of procedures and result sets, centralizing business logic using user defined functions, and extending your tables using triggers.

PHP and Database Access – Erwin Earley

As the "glue" that holds the LAMP stack together, PHP is used both as the language to represent the business logic of a web application as well as leveraging data from various data sources including relational databases. The session will start out with a look at the basic database access and manipulation functions provided by PHP. From there we will explore the PHP language extensions for accessing and working with data resident in DB2 on IBM i. Additionally, we will take a look at how PHP accesses MySQL/MariaDB data and how that data can actually be stored in DB2 without any code changes. Finally, we will take a look at how the PHP language can be used to build solutions from multiple disparate data sources – specifically in our case we will look at how data from DB2 and data from MariaDB can be represented together to deliver holistically (from a data perspective) solutions.

Turn on the LAMP – Please! - Erwin Early

The computer world is full of light, or so it seems with the proliferation of LAMP-based applications, and the good news is that you have all of the components on your IBM I needed to leverage the large ecosystem of LAMP-based applications. This session will explore the definition of LAMP and the components of IBM I that support LAMP applications. From there we will provide an overview of some of the more popular categories of LAMP applications, including CRM, WIKI, eCommerce, and others. Along the way we will walk through live installations of several LAMP applications on IBM I to show how easy it is to leverage open source solutions on the i platform.

Setting UP Linux on Power – Erwin Earley

So, you've decided to take the plunge and explore Linux on your Power system but don't know where to start? This session will explore how to install Linux on a Power system, both PowerVM as well as the KVM hypervisor will be covered as well as hosting Linux I/O from an IBM i instance.

Look what you can do with RDi - Susan Gantner

There is so much functionality packed into RDi (aka, Rational Developer for i), it's hard to keep track. In this session Susan will focus on a few of the lesser-known features that keep her addicted to RDi for development work.

We'll look at features such as the ability to create and use your own snippets and templates and spotlight a few favorite keyboard shortcuts that are often overlooked. We'll also look at recent enhancements made to RDi that you may have missed when they came out. If you're an RDi

user, perhaps you'll share some of your own favorites. And if you're not already an RDi user, come find out some of what you're missing.

RDi: Even Better with iSphere - Susan Gantner
It's no secret that Susan is a big RDi fan. But even a great tool can be made even better with the help of plug-ins. If you're an RDi user and you don't have the iSphere plug-in installed into your RDi, you're missing out on a wealth of new/enhanced functionality.

Susan will demonstrate a few of her favorite features from iSphere - things such as a better "Find String" capability, tools to make working with message files a breeze and the ability to see text for objects and members in your Remote Systems lists. She will also outline the simple installation process along with some suggestions for how to manage updating iSphere when new releases become available.

RPG: The Power of the Prototype - Susan Gantner
Everyone who does free format RPG logic needs to know at least the basics of using prototypes to replace their old parm lists for program calls. However, many RPGers don't understand just how much prototypes can do for them.

In this session, Susan reviews prototype basics but concentrates mostly on exploiting the often-overlooked features of prototypes. Did you know that:
 - Prototypes can protect you against parameter mis-matches
 - Prototypes can provide automatic conversion of parameter types and sizes
 - Prototypes can enable passing literals, built-in functions or function calls as parameters
 - Prototypes allow you to specify optional parameters
 - Prototypes enable you to call C functions and system APIs that return values

We'll also look at how to exploit these features of prototypes effectively, including examples of the right way for called programs (or procedures) to deal with optional parameters. We'll cover the difference between passing parameters by value vs by reference and how to deal with very large return values from procedures. We'll talk about who should write prototypes and why they are often coded in separate members to be copied into RPG programs.

APIs and the Modern User Experience – Dan Magid and Charles Jones
The business cares about productivity and profits, not hardware and software. IBM i has powered your organization for years, and there's no reason it can't deliver the goods for the intuitive web and mobile user experiences you need to deliver today. The key is delivering the business functions as RESTful APIs that any application can use, providing the fastest results and greatest productivity gains for your key stakeholders.

This session will cover:
- Methods for creating APIs
- Using APIs to support mobile and web user interfaces
- Orchestrating services from multiple sources to meet complex needs
- Managing APIs for optimal use and potential profit

Organizing an ILE Application – Brian May

Over the years, I have come up with my preferred way of organizing an application. This method was developed from experience as well as from knowledge of Object Oriented programming concepts. In this session, we will discuss building service programs and procedures in object like structure. These service programs will encapsulate File I/O and business logic into reusable and maintainable pieces.

GUI Design Concepts for the 5250 Developer – Brian May

RPG and COBOL developers have created text-based interfaces for decades. Now your company has chosen a language/tool for creating graphical interfaces. That's great! Now that you can create a GUI interface, how do you make it look good? In this session, we will examine common mistakes made by developers new to graphical interfaces, and then learn simple and proven concepts for creating modern user interfaces.

Making Node.js a Business Language - Brian May

JavaScript, and therefore Node.js, is a powerful language. It's flexibility and extensibility make it great for many different projects, but with that flexibility comes some complexities.
Node's dynamic data types, asynchronous processing, and code caching can be very useful in some instances, but most cases business logic is not easily fit into this environment. In this session we will look at a free framework for Node.js that implements business friendly features such as strong data types, top down coding of business logic, and cache busting for changed code. In this session, we will examine the free Profound.js framework's features, install the framework from NPM, and demonstrate how using the framework makes Node.js easier for RPG developers to learn Node.js.

DATA-INTO: Like XML-INTO but for JSON, CSV... you name it! – Barbara Morris
(This will be a live remote video presentation.)

Come to this session to learn about the new DATA-INTO opcode.
- Find out how it's similar to XML-INTO.
- Find out that the main difference from XML-INTO is that you need to supply a parser.
- Find out what parsers are already available, in the QOAR library, for you to compile and use or study.
- We'll also look at the code for a very simple parser, just so you can get an idea of how you might write your own parser.

What's new for RPG in 7.3 & Later TRs – Barbara Morris
(This will be a live remote video presentation.)

Come to this session to hear what RPGers everywhere are talking about. Barbara will reveal details about the new (almost) completely free RPG language.
Find out about what's new in 7.3 for RPG including several items that are available through PTFs for earlier releases:
- New DATA-INTO opcode - similar to XML-INTO, except that it works with any type of structured data, including JSON
- Fully free-form RPG - no column limitations
- New ON-EXIT support for clean-up
- New %SCANR built-in function
- Some enhancements for null-indicator support
- Full ALIAS support

- Easier to use data structures for I/O
- And more

30 PHP Tips in 60 Minutes – Mike Pavlak
This session looks at the most popular tweaks, hacks and just plain good practices the for IBM i PHP community to enjoy. Sometimes you just need a shopping list of things to watch out for and many of the tips that are scattered throughout these presentations are consolidated in a single place. Performance, security and best practices and more will be discussed.
Learning Objectives:
Common tips useful to all PHP shops Common mistakes to overcome with PHP in most shops.

Business Uses of Python - Mike Pavlak
Python is a language that has been perceived as infrastructure or plumbing in the IT department, much like CL. While this is an excellent use for Python, it has emerged as a strategic language for application development, too. In this workshop we'll explore the implementation, syntax and application use cases of Python on IBM i. From a fundamentals perspective you will get hands on experience using the command line, shell environment, script creation, storage and execution. As we progress through the workshop we will delve into Db2 data access and program calls using XML Service as well as a brief tour of frameworks. Then we'll wrap things up with how open source applications built in Python can add value to your IT environment.

Building Reusable APIs – Stephanie Rabbani
When should I use an API? What are the benefits of writing APIs?
This talk will cover when to use Web APIs to access your data, as well as some tips on how to write a Web API that is flexible and designed to last.
Using code examples in multiple open source languages, I will share lessons recently learned from working on a large integration project with Salesforce.

Git for Open Source and Source Control – Stephanie Rabbani
In this session find out how to use Git to contribute to open source projects, and get an introduction on how to use Git to manage source code within your organization.
You will learn:
How to create your own repository
The basics of Git flow
Tips and tricks for using Git on Mac/Windows
How to use Github/Gitlab/Bitbucket to contribute to open source projects

Secure your Web App – Stephanie Rabbani
Security is a top concern of most CIOs for good reason. When we take apps to the web, what we don't know CAN hurt us. In this session we will demonstrate a multi-layered defense, starting with web server level security, including Apache directives, reverse proxies, and SSL encryption; front-end (browser level) security techniques, code-level security best practices, and Db2 database protection. These security tips are applicable to any language, although examples will be in PHP.

Art of the Possible – Tim Rowe
What is 'modernization'? It can mean many things. This session will look at the IBM i strategy for moving forward in this modern world. Much of the session is based on our Modernization

Redbook as well as the many new things that we continue to add to the operating system. Many of the strategies and methodologies are what our IBM i users are already doing today. Come learn how you too can venture down the path of modernization.

Watson Case Studies – Tim Rowe

Did you know that Watson and IBM i can work together? This session will review what is Watson and its importance in your business. We will then dive into the technology that allows you to connect your IBM i data to Watson. We will also take a look at how other IBM i users have been leveraging Watson as part of their business.

REST Web Services – Tim Rowe

Web Services have been an important component to modernization. IBM i has provided a Web Services engine for a number of years now, originally only creating SOAP based web services. The Integrated Web Services Engine has now been updated to provide the ability to easily create REST based services for your ILE RPG programs and service programs. This means now you can take advantage of the latest trend in Web Services. REST based services allows you to participate in the API economy. Quickly enable your key business logic as API's that can be leveraged from anywhere. We will cover the latest updates to the Integrated Web Services engine including the addition of Swagger, multi node deployment, authorized user, and much more.

Backup IBM i Data to the Cloud – Tim Rowe

Increasingly IT clients are taking advantage of public or private cloud offerings to share files, back up data, and archive data. This session will look at a brand new product from IBM that is designed to allow IBM i customers to send files or back up data directly to the private cloud or public cloud providers (like SoftLayer, and Others). In addition, IBM Backup, Recovery and Media Service for i (BRMS) is enhanced to work with the new product to send files and libraries to the cloud in the same manner as though the target were a local tape device. This session will cover details of the new product and BRMS enhancements, and will also include a live demo to show how easy it is to move files around.

Open Source with POWER9 – Alan Seiden

Are you interested in running Open Source on IBM i? Try a new open-source language, use some of the many open source tools that IBM has delivered, and attract new talent to your shop. Alan has joined forces with Jesse Gorzinski, IBM's Business Architect
of Open Source Technologies, to bring you the latest updates on tools delivered by IBM, as well as to share why IBM sees open source as strategic to the platform. Why has it been such a strong force in the IBM roadmap? How can open source address some of the primary concerns in the marketplace?

Programming RPG With Style - Paul Tuohy

In this session, Paul discusses the what and why of standards and guidelines for modern RPG development. Topics include:
- Make Use of the Tools
- RPG is FREE
- Modern RPG Programs and Subprocedures
- What's in a Name?
- Comments
- Structuring Code

- Use Templates and Qualified Data Structures
- Qualify Wherever Possible
- Strings
- Subroutines
- Out With The Old
- Embedded SQL
- Global Definitions
- Parameters, Prototyping and Procedure Interfaces
- The Integrated Language Environment
- Roll Your Own

RPG Talks to Watson - Paul Tuohy

One of the key questions is - how easy is it to integrate Watson into my existing RPG applications?

In this session we look at some of the ways that RPG can connect with Watson (using the translation API) - and just how simple it is.

As well as looking at different methodologies, we will also discuss the advantages, and disadvantages, of the different approaches.

Access Client Solutions (ACS) for Programmers

Access Client Solutions is a powerful tool for programmers. ACS replaces and enhances much of the functionality originally supplied by Navigatorfor i.

This session discusses how ACS can be used by programmers; including

- System Configuration
- 5250 Emulator
- SSH Terminal
- Integrated File System
- Printer Output
- Schemas
- Run SQL Scripts
- SQL Performance Center

Best Practices for the IBM i Security Administrator - Carol Woodbury

System and Security Administrators have more tasks on their 'To Do Lists' than they can ever hope to accomplished.   Security is somewhere on the list but it rarely makes it to the top. One of the reasons?   You don't know where to start.   This session provides a checklist of items that should be addressed by every administrator along with actionable tasks that you can perform in your workplace to start addressing security on your IBM i.

Applying IBM i Security Features - Carol Woodbury

IBM i is full of security features for you to implement. Many are obvious as to *how* you'd use them but not so obvious as to *why*. Other features remain a mystery altogether. During this session Carol will describe practical uses of the newest features of V7R2 and V7R3 including Row and Column Access Control (RCAC) and Authority Collections.   Then Carol will explain some commands and features that are not as well-known and explain how and why you'd use them. Features include Application Administration, security-related views in QSYS2, little-known features of the audit journal and commands such as Print Profile Internals (PRTPRFINT) and Grant User Authority (GRTUSRAUT).

Lessons Learned from an AS/400 Hack - Carol Woodbury

Yes, IBM i has been hacked.   This session discusses the issues that went un-addressed by this organization that allowed the hack to occur.   Further discussions will describe other configuration settings and practices that may be causing your IBM i to be vulnerable.   Options for reducing these risks will also be discussed.