Web Development with RPG and CGIDEV2

Presentation for The Omni User Group
By Bob Dunn and Doug Bridwell
Introductions

- Bob Dunn – Dunn–Rite Services
  Consultant / Contract Programmer

- Doug Bridwell – The Morey Corporation
  Application Development Manager
  Omni Seminar Director
Technology of the Past

United Savings of America was a Chicago area bank with 30 branch offices running on a System/38

- 16 MB RAM
- 3.7 GB Disk Storage
- Analog Phone Lines for data communications

- That’s less computing power, memory, and storage than an iPhone
- Technology has come a long way
- We are still using some of those same programs and technology today.
What Is CGIDEV2?

- Middleware
- In the form of a Service Program
- Sub-Procedures you can use to facilitate web development in your RPG programs
Why Use CGIDev2?

- We assume you already have mad RPG skills
- Your business logic is in RPG and your data exists in IBM DB2 for i
- Performance is Excellent
  - Hardware upgrade is not required
- Extend your applications beyond your 4 walls
- Give your users applications with a modern user interface
Choosing between two CGIDEV2 offerings

- The IBM version
  - Stagnant, not modified or supported
  - No examples or add-on tools
- The Easy400 version (This is the best choice)
  - Giovanni Perotti continuously updates and supports this offering
  - Lots of examples, sample programs, & documentation
  - Add-on tools: MMAIL, LOGINOUT, FUPLOAD, JSDATEPICK, XLPARSE
Installation

- Go to Easy400: [http://www.easy400.net/en](http://www.easy400.net/en)
- Download page: [http://www.easy400.net/easy400p/maindown.html](http://www.easy400.net/easy400p/maindown.html)
  - CGIDEV2 – ILE RPG CGI Development Kit
  - MMAIL – Mime and Mail for IBM i
- See the readme.txt file in the downloads for installation instructions
- CGIDEV2 Documentation: [http://cgidev2.easy400.net/](http://cgidev2.easy400.net/)
  - Go through everything on this page
- The Apache configuration can be tricky. If you get stuck send us an email and we will try to assist.
Support

- Easy400 Yahoo Group
  - [https://groups.yahoo.com/neo/groups/Easy400Group/info](https://groups.yahoo.com/neo/groups/Easy400Group/info)

- Various web resources
  - W3 Schools – [www.w3schools.com](http://www.w3schools.com)
  - Scott Klement – [www.scottklement.com](http://www.scottklement.com)
  - iProDeveloper – [www.iprodeveloper.com](http://www.iprodeveloper.com)
  - Midrange.com – [www.midrange.com](http://www.midrange.com)
  - Google – Surprisingly accurate and easy
    - Try googling “cgidev2 updHTMLvar”

- Free software but please donate and support Easy400 if you find it useful
Security

- You have 4 security options
  - No Security – No login required
  - Apache System Security – Uses IBM i User Profiles
  - Apache Validation List Security
  - Application level security with user friendly login and logout
CGIDEV2 Coding Basics

- You can go with Fixed or Free Format RPG
- Use SQL or Standard I/O (CHAIN/READ)
  - We highly recommend SQL if you have SQL DevKit
- You will need to understand Stateless processing as opposed to session processing
- Variables are passed in character format only – we convert numeric/date/integer data to character on output and reverse on input
Basic Program Flow

- Security checking / processing
- Get and parse input from browser
- Parse and convert input variables
- Retrieve HTML template into memory
- Process the request
- Validate passed data
- Move data to substitution variables in the HTML
- Output sections to the browser
Demo the Sample Application

Customer Maintenance (WCUST001/WCUST002)
You can use SEU for the RPG and Notepad for the HTML

We recommend using Rational Developer for i (RDi) with the web page editor plug in

Debugging is much easier with RDi and Service Entry Point debugging

Adobe Dreamweaver

Notepad++ (excellent free editor)
Columns . . .:  1  71
SEU=>
FMT ** ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
0001.99  //==========================================================================================================
0002.00  // Main line
0002.01  //==========================================================================================================
0002.02
0002.03  /FREE
0002.04
0002.05  //Initialization:
0002.06  $Initialize();
0002.07
0002.08  //Get HTML Input Variables:
0002.09  $GetInput();
0002.10
0002.11  //Process Browser request:
0002.12  $ProcessRequest();
0002.13
0002.14  //Write HTML output:
0002.15  $DoOutput();
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F10=Cursor  F11=Toggle  F16=Repeat find  F17=Repeat change  F24=More keys
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Rational Developer for i (RDi)
Demo the JQuery Mobile Application

JQueryMobile Menu Application
Data Driven Graph Application

Demo Morey Sandbox Application

Morey Monthly Sales in Dollars

- Apr, 1,592
- May, 695
- June, 567
- July, 688
- Aug, 688
- Mar, 588

Morey Sales Analysis

Products Ordered VS Products Shipped

- Jan: 688
- Feb: 688
- Mar: 588
- April: 588
- May: 695
- June: 500
- July: 195
- August: 567

Month

- Ordered
- Shipped
Demo VNWF Electronic Order Application

This is a web based order entry application that has been in use since 2009
This is a web based order fulfillment application that has been in use since 2013.

### Demo TeMeDa Electronic Order Fulfillment Application

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Demo Device Data (DDAT) Application

This is a web based shipped device inquiry application
Demo Electronic Ordering System (EOS) Application

This is a web based Order Entry application
Next Steps

- Download and Install CGIDEV2 and MMAIL
- Get the sample program running
- Start small and add more complexity as you learn
Contact Us

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