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**Application modernization without complexity**

**How to overcome complexity for System i business applications**

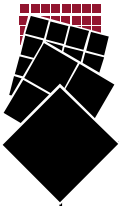
# **PART1 Standard rules and design**

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**Presented by:**  
**Jean Mikhaleff**

**Date:**  
February, 7 2007

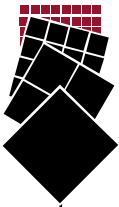
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# General Presentation Part 1

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- **AS/400 design compared to web design**
- **SAA Standards of OS/400: technical details**
- **is PHP the future of RPG for the web?**



# **S/38 or design of the past**

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- **S/38 design. Originally, all the business programs started from a form with a lot of menus around and a lot of prompts on fields (F4).**
- **The typical model was the “programmer menu”**



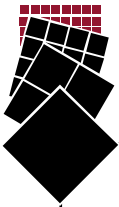
# S/38 or design of the past

Select one of the following:

1. Start AS/400 Data File Utility
2. Work with AS/400 Query
3. Create an object from a source file      object name
4. Call a program      program name
5. Run a command      command
6. Submit a job      (job name)
7. Go to a menu      menu name
8. Edit a source file member      (srcmbr),
9. Design display format using SDA      (srcmbr),
90. Sign off      (\*nolist,

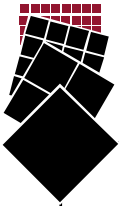
Selection . . . . . \_\_\_      Parm . . . . . \_\_\_\_\_  
Type . . . . . \_\_\_\_\_      Parm 2 . . . . . \_\_\_\_\_  
Command . . . . . \_\_\_\_\_

Source file . . . . . \_\_\_\_\_      Source library . . . . . \_\_\_\_\_  
Object library . . . . . \_\_\_\_\_      Job description . . . . . \_\_\_\_\_



# PDM Design

- around 1990 comes a real design revolution with “PDM Design”.
- Basically, the business programs start from a list or subfile in order to call a form (or another subfile).



# PDM Design

**Basically, in “PDM Design” you have two steps :**

- **First step : find information from a list (SFL).**
- **Second step : display or manage information from a record of the list (SFL).**



# PDM Design

```

File . . . . . QILEMDL
Library . . . . . FASTPGM                               Position

Type options, press Enter.
2=Edit          3=Copy   4=Delete 5=Display   6=
8=Display description 9=Save 13=Change text 14=

Opt  Member      Type      Text
___  BOX          DSPF      BOX Programme principa
___  FCH          DSPF      FCH Programme principa
___  LST          DSPF      LST Programme principa
___  PRT          PRTF      PRT Programme principa
___  PUL          DSPF      PUL Barre de menus sta
___  PULDSP       DSPF      PUL Barre de menus pou
___  PULSLE       DSPF      PUL Barre de menus pul
___  PULSL2       DSPF      PUL Barre de menus pul

Parameters or command
==>

F3=Exit          F4=Prompt      F5=Refresh
F9=Retrieve      F10=Command entry  F23=More opt

```

From  
Operations

records

Functions



# PDM Design

This “PDM design” has been adopted for more than 15 years for business applications.

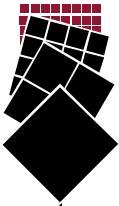
## Client Unique key

From. .: 00000

Type options, press Enter.

2=Update 3=Copy 4=Delete 5=Display

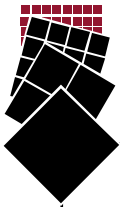
Opt	Key	Client Company Name	State Name
█	10000	Bank-A-Count Corp.	Wisconsin
_	10001	B & L The Fence Store, LLC	California
_	10002	CULLigan Store Solutions, Inc.	Minnesota
_	10003	First American Bank	Illinois
_	10005	Jennie-O Turkey Store, Inc.	Minnesota
_	10007	Super Dog Food Co	Pennsylvania



# PDM Design

**Basically, in “PDM Design” you have two steps :**

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# **PDM Design and Google design**

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**To see if PDM design is still relevant, we have compared it with Google design :**

**Why Google design ?**

- **Google indexes billions of webpages for a billion request per day**

**Users have chosen Google's design with 54% market share.**

**So we can say that this design is nowadays the best design to display information for users.**



# PDM Design and Google design



Web

From

Results 1 - 10 of 10

## [United States Department of Justice](#)

Primary federal criminal investigation and enforcement agency.  
[www.usdoj.gov/](#) - 32k - 18 Jan 2007 - [Cached](#) - [Similar pages](#)

10 lines  
per page

## [FOX.com](#)

Official site. [Requires Netscape 4.0+ or Internet Explorer 4.0+ on Windows or Mac.]  
[www.fox.com/](#) - 15k - [Cached](#) - [Similar pages](#)

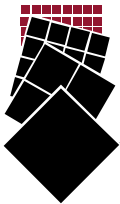
## [JUSTICE](#)

The all party law reform and human rights organisation.  
[www.justice.org.uk/](#) - 2k - [Cached](#) - [Similar pages](#)

Options at record  
level

## [Justice - Wikipedia, the free encyclopedia](#)

J.L. Urban, statue of Lady **Justice** at court building in Olomouc, Czech Republic ... For instance, John Rawls claims that "**Justice** is the first virtue of ..."  
[en.wikipedia.org/wiki/Justice](#) - 77k - [Cached](#) - [Similar pages](#)



# PDM Design and Google design

## Client Unique key

From. .: 00000

From

Type options, press  
2=Update 3=Copy 4=Delete 5=Display

13 lines  
per page

Opt Key	Client Company Name	State Name
10000	Bank & Credit Corp.	Wisconsin
10001	Fence Store, LLC	California
10002	Store Solutions, Inc.	Minnesota
10003	First American Bank	Illinois
10005	Jennie-O Turkey Store, Inc.	Minnesota
10007	Super Dog Food Co	Pennsylvania

Options at  
record level



# PDM Design and Google design

## Client Unique key

From. .: 00000

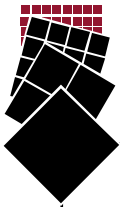
From

Type options, press  
2=Update 3=Copy 4=Delete 5=Display

13 lines  
per page

Opt Key	Client Company Name	State Name
10000	Bank & Credit Corp.	Wisconsin
10001	Fence Store, LLC	California
10002	Store Solutions, Inc.	Minnesota
10003	First American Bank	Illinois
10005	Jennie-O Turkey Store, Inc.	Minnesota
10007	Super Dog Food Co	Pennsylvania

Options at  
record level



# **PDM Design and Google design**

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**That means PDM's Design is the best design we can have to display business information.**

**Do you have a better design to propose ?**

**...But that's character mode, « green screen type ». What can you do if you know nothing about « New technologies » and if you need to go through the web?**

**If you know nothing do nothing and you will have good results:**





# PDM Design and Google design

## CelDial Application

Options at record level

06/02/28 CelDial - Work

Type option, press Enter.  
2=Change 4=Delete 5=Display 8=Pr

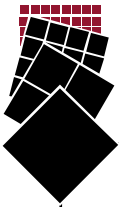
My Products

Main Product  
Support  
Downloads

Opt	Number	Description
<input type="checkbox"/>	00001	Adapter 120V
<input type="checkbox"/>	00002	Adapter
<input type="checkbox"/>	00003	Antenna -replaceable
<input type="checkbox"/>	00004	Auto Antenna - mag
<input type="checkbox"/>	00005	Auto Antenna - perm
<input type="checkbox"/>	00006	Auto-dial Expansion
<input type="checkbox"/>	00007	Base Unit - Auto
<input type="checkbox"/>	00008	Battery Charger 12V

Enter  
Exit  
Add a part  
Spool files  
Cancel  
HELP

Or that : with IBM re-facing HATS



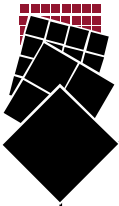
# **Standards i5/OS or SAA**

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**And what's about Forms?**

- **A form is a form and the Form's controls are VERY VERY poor on the web.**

**With RPG we have much better. No doubt about that.**



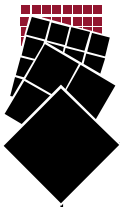
# **Standards i5/OS or SAA**

---

**To have dynamic or automatic conversion**

**Follow the i5/OS standards (or OS/400 standards  
or SAA standards)**

**Take « pdm design » as a model.**



# Standards i5/OS or SAA

Between two dates

> OR = ; \*ISO Date

< OR = ; \*ISO Date

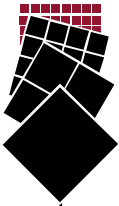
décembre 2006

lun.	mar.	mer.	jeu.	ven.	sam.	dim.
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

Aujourd'hui 12/12/06

To have calendar automatically on date 3 solutions:

- \*iso type date
- EDTCDE(Y) on numeric field
- EDTWRD(' / / ') on numeric field

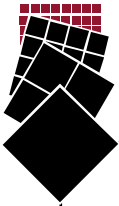


# **Standards i5/OS or SAA**

---

**Divide your list in 4 parts :**

- Title at the top with underline and highlight attributes.**
- From**
- Operations. Prefer 2, 3, 4, 5 and 1 to select**
- Functions SAA: F6=Create F3=Exit  
F4=Prompt F5=Refresh F12=Previous**



# **Standards i5/OS or SAA**

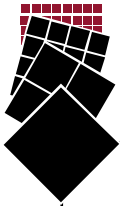
---

**The subfile must be loaded :**

**-) if less than 100 record maximum,  
total loading.**

**-) else dynamic loading.**

**In order to have a better representation  
of the scrollbar.**



# Standards i5/OS or SAA

If possible, meet the IBM's design menus:

```
MAIN                               AS/400 Main Menu
Select one of the following:

  1. User tasks
  2. Office tasks
  3. General system t
  4. Files, libraries
  5. Programming
  6. Communications
  7. Define or change
  8. Problem handling
  9. Display a menu
 10. Information Assi
 11. Client Access/40

 90. Sign off

Selection or command
===> _____

F3=Exit   F4=Prompt   F9
F23=Set initial menu
```

- ▶ User tasks
- ▶ Office tasks
- ▶ General system tasks
- ▶ Files, libraries, and folders
- ▶ Programming
- ▶ Communications
- ▶ Define or change the system
- ▶ Problem handling
- ▶ Display a menu
- ▶ Information Assistant options
- ▶ Client Access/400 tasks
  
- ▶ Sign off



# Standards i5/OS or SAA

000103 Held  
F12440 Sebastian Gourmet Foods  
002 Melbourne  
108 Williams Ted  
60.22

convert order total

Local Currency

Order Total (US\$)

Ship to Warehouse

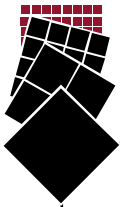
9877B2 Customer order date

18/06/9

N

0

**With web services: it is possible to  
Add a tool online. Example to  
convert into Local currency**

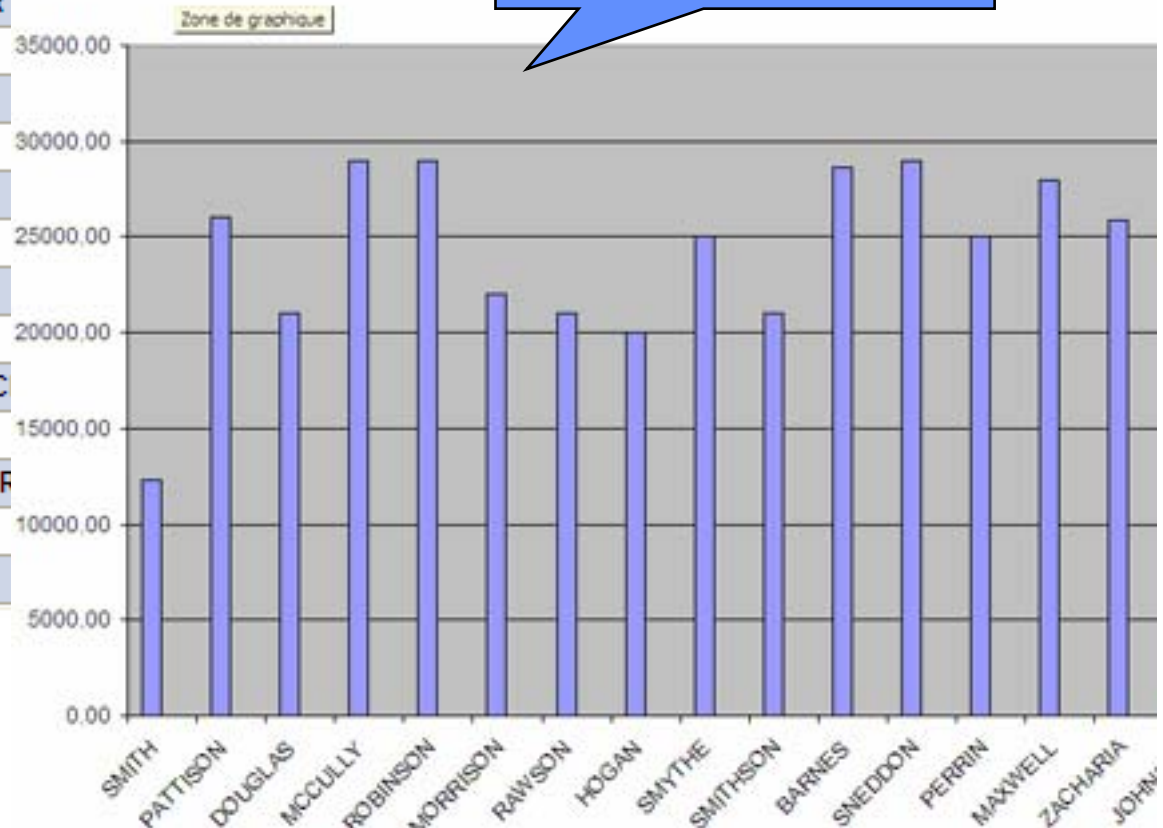


# Standards i5/OS or SAA

Date 12/21/04

Surname	Given name(s)	Dept Code	Salary
SMITH	AMES	ADM	12,345.00
PATTISON	GEORGE	ADM	26.000.00
DOUGLAS	ADAM PETER		
MCCULLY	DAVID		35000.00
ROBINSON	MARY		
MORRISON	ALAN		30000.00
RAWSON	JOHNSON		
HOGAN	DAMIEN		25000.00
SMYTHE	JOHN		
SMITHSON	PAUL		20000.00
BARNES	STEPHEN MIC		
SNEDDON	ALLAN		15000.00
PERRIN	CHRISTOPHER		
MAXWELL	ANDREW		10000.00
ZACHARIA	PAUL		5000.00

And show the subfile in a .xml chart





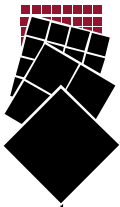
# **Web 2.0**

## **regarding**

# **OS/400 standard design**

**Presented**  
**by:**  
Jean  
Mikhaleff

**Date:**  
February 7,  
2007

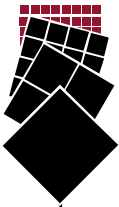


# Web 2.0 and OS/400 standards

**History of web revolution :**

**-1rst revolution called 'dot-com bubble'**





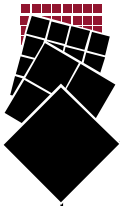
# Web revolution

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## 'dot-com bubble'

- **FUNDS:** substantial amount of money even though it had never made a profit.
- **Killer IDEOLOGY:** WebSphere for universal operating system and Java for universal language. And eServer ?Series for universal engine.
- Those who develop in RPG will be out of the market soon!!!





# Web revolution

## Web 2.0

**Usability Economy Design Standardization  
Convergence Remixability**

**= Less specific developments as possible**

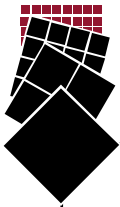
**= Try to fit a content into an existing web model**

**Content must meet standards : OS/400 design**

**Remixability : don't change the RPG programs at all !!! Re-facing must be as dynamic as possible.**

**Convergence : PDM design will be close to Google standards and use web services.**

**Economy : very low cost indeed !!!**



# Web revolution

**PHP on System i Pase : huge  
consequences for the RPGIV  
language itself!!!**

Presented  
by:  
Jean  
Mikhaleff

Date:  
February 7,  
2007



# Web revolution

<http://www.hotscripts.com>

35,361 Resources Listed in Over 1,000 Categories 57 scripts added in the past 7 days

 <a href="#">Ajax</a> (54)	 <a href="#">ASP</a> (3,386)	 <a href="#">ASP.NET</a> (1,229)
 <a href="#">C and C++</a> (477)	 <a href="#">CFML</a> (262)	 <a href="#">CGI and Perl</a> (4,412)
 <a href="#">Flash</a> (1,260)	 <a href="#">Java</a> (1,742)	 <a href="#">JavaScript</a> (2,636)
 <a href="#">PHP</a> (13,241) 	 <a href="#">Python</a> (121)	 <a href="#">Remotely Hosted</a> (2,228)
 <a href="#">Ruby on Rails</a> (49)	 <a href="#">Tools and Utilities</a> (3,793)	 <a href="#">Web Hosting</a>
 <a href="#">XML</a> (258)		

**You have +13.000 web models in PHP language  
(+3.000 in ASP language ; +2000 in Java Script )**













# Web revolution

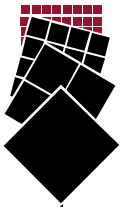
If you have an online catalog to make, do you have to use RPGIV language for that?

Home :: PHP :: Scripts and Programs :: E-Commerce

Click "Subscribe" if you want to be notified of new or updated links in this category.

 <a href="#">Barcode Generation</a> (6)	 <a href="#">Online Malls</a> (14)
 <a href="#">Billing Systems</a> (47)	 <a href="#">PayPal</a> (90)
 <a href="#">Credit Card Processing</a> (50)	 <a href="#">Quote Systems</a> (2)
 <a href="#">Miscellaneous</a> (104)	 <a href="#">Shopping Carts</a> (252)
 <a href="#">Online Catalogs</a> (36)	 <a href="#">Store Locators</a> (12)

You have 36 online catalogs with PHP language to to meet your needs for a very low price.

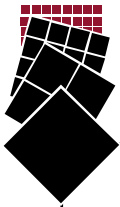


# Web revolution

**That would be crazy to make an online catalog with RPGIV language and « modern instructions ».**

**Consequence : if IBM will improve RPGIV with web instructions, very few people will use them.**

**Does that mean RPGIV is dead? (dead once more... after Java's dot.com bubble revolution)**



# Web revolution

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**RPGIV is just the visible surface, the skin, of a GIANT proprietary Business Operating System:**

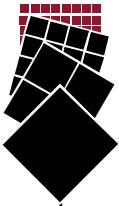
- **with an integrated and centralised Data Base**

**To manage automatically:**

- **a huge number of jobs at the same time**
- **a huge number of users at the same time**

**The original purpose of PHP is to create web frameworks and to generate HTML language:**

- **PHP is a free language (no owner)**
- **international online community of developers.**



# Web revolution

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**The aim of dot.com bubble revolution was :**

- **To kill the old world and replace it with a new one.**

**The aim of web 2.0 revolution will be :**

- **To integrate easily an existing content.**

**To do that you need two things :**

- **a content (like RPGIV programs).**
- **a standard (like OS/400 and « pdm » standard)**

**To re-face part of RPGIV applications and to link PHP applications when you need it, for a very low cost.**



## Web revolution

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**To integrate to the www  
the best business  
applications easily AND in  
a non-invasive way.**

**When you need it...**

**Jean Mikhaleff thanks for your attention.**