

# **Part 1: How to Create a PDF Viewer from Scratch!**

***Presented by Craig E. Ransom  
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# How to Make a PDF Viewer...

## *Application Level*

- (Create a single-procedure application: optional)
- Add Global Extension Template to application: “PDF-XChange ActiveX Viewer v2.0 Global Extension”
  - No Prompts!

# How to Make a PDF Viewer...

## *Procedure Level (1) – Basic Layout*

- Create a new Simple Window Procedure
  - Use *Generic Window Handler* Template
  - Select *Simple Window*
  - Add Toolbar
  - Add OLE control *Without Template*

# How to Make a PDF Viewer...

## *Procedure Level (1) – Template*

- Add Procedure Extension Template: “PDF-XChange ActiveX Viewer v2.0 Class Obj Extension”
  - Set *REGION Control* to the OLE Control
  - *Hide ActiveX Control* (Why do this?)
  - *Current Document ID* (What is this?)

# How to Make a PDF Viewer...

## *Procedure Level (2) – Data Variables & Controls*

- Create Data Variables:
  - **Filename** STRING(260), Entry Control
  - **Password** STRING(100), Entry Control
- Add Data Variables to Toolbar
- Add *DOSFileLookup* Template for **Filename**
- Add Simple Button
  - Caption: “Open...”
  - FEQ: ?OpenBtn

# How to Make a PDF Viewer...

## *Procedure Level (3) – Add Code Templates*

- At ?OpenBtn Accept Embed Add:  
“Open Document” Code Template
  - Add !Filename (leading exclamation point!)
  - Add !Password (leading exclamation point!)
  - ID (Default)
  - Flags (Default)

# How to Make a PDF Viewer...

...Believe It Or Not!

At this point, we have a  
Fully-Functional PDF Viewer!

Hard to believe, right?

Compile and Run the Application!

# How to Make a PDF Viewer...

*Fit PDF Page to Control – Code Template*

- **Document Level Commands:** SetDoc..., GetDoc..., ShowDoc...
- Add ***Set Doc Pages Zoom*** Code template after **Open Document** template
  - Set *ZoomStr* parameter to **!PXCVA\_PZ\_FITWIDTH**
  - Compile and run
  - Set *ZoomStr* parameter to **!PXCVA\_PZ\_FITPAGE**
  - Compile and run



# How to Make a PDF Viewer...

*Fit PDF Page to Control – ShowBarZoom*

- **Viewer Level Commands**
  - **Show Bar Zoom** Code Template
  - NOT a Document Level command
  - Place in **PDF-XChange ActiveX Viewer:**  
**After Init Embed Point**
  - Set **bShow** parameter to *Yes*
  - Compile and run

# How to Make a PDF Viewer...

## *Add Thumbnails Pane – part 1*

- **Show Doc Pane Thumbnails Code Template**
  - Document Level Template
  - Add **Show Doc Pane Thumbnails** Code template after **Open Document** template
  - Set **bShow** parameter to *Yes*
  - Compile and run

# How to Make a PDF Viewer...

## *Thumbnails Pane under User Control*

- Create **ShowThumbs** variable
  - LONG, Checkbox
  - Add to Toolbar
- Move **Show Doc Pane Thumbnails** Code Template to **ShowThumbs** Accept Embed
  - Set **bShow** parameter to *Var*
  - Set **bShow Var** parameter to **ShowThumbs**
  - Compile and run

# How to Make a PDF Viewer...

## *Close Document Code Template #1*

- Add Button Control to Toolbar
  - Caption: Close Doc
  - FEQ: ?CloseDoc
- **?CloseDoc** Accept Embed
  - Insert ***Close Document Code Template***
  - Copy Embed Before Open Document Template
  - Compile and run

# How to Make a PDF Viewer...

## *Close Document Code Template #1*

- Copy **?CloseDoc** Accept Embed Before **Open Document** Template
- Compile and run

# How to Make a PDF Viewer...

*The Viewer Menu Bar*

*“The Keys to the Kingdom”*

- Beware! Viewer Menu Bar is “The Keys to the Kingdom”
- **Show Bar Menu Code Template**
  - Not Document, so place in **PDF-XChange ActiveX Viewer: After Init Embed Point**
  - Compile and run

# How to Make a PDF Viewer...

## *The Viewer Menu Bar*

### *Controlling Command Access*

- **DenyAll...** Viewer-level Templates
  - DenyAllContextMenus
  - DenyAllExportOperations
  - DenyAllModifyOperations
  - DenyAllPrintOperations
  - DenyAllSaveOperations
- **Get/SetCmdState...** Viewer-level Templates
  - There are 191 Different commands that are controllable through these methods
  - See Docs for complete list

# How to Make a PDF Viewer...

## *The Viewer Menu Bar Controlling Command Access*

- Suggested placements:
  - In **PDF-XChange ActiveX Viewer: After Init Embed Point**
  - In Button or Toggle Accept Embed



# How to Make a PDF Viewer...

*The Viewer Menu Bar*

*Controlling Command Access - **DenyAll...***

- In **PDF-XChange ActiveX Viewer: After Init**  
Add the following DenyAll... Templates:
  - DenyAllExportOperations
    - Set bDeny parameter to *True*
  - DenyAllPrintOperations
    - Set bDeny parameter to *True*
  - DenyAllSaveOperations
    - Set bDeny parameter to *True*
- Compile and run

# How to Make a PDF Viewer...

*The Viewer Menu Bar*

*Controlling Command Access - **SetCmdState...***

- In **PDF-XChange ActiveX Viewer: After Init**
  - Remove the **DenyAll...** Templates
  - Add the following **Get/SetCmdState...** Templates set to *Disable*:
    - Set Cmd State Print
    - Set Cmd State Export
- Compile and run

# **Part 2: JavaScript and AcroForms**

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# JavaScript and AcroForms

## *JavaScript Resources*

- JavaScript History:
  - <http://en.wikipedia.org/wiki/JavaScript>
- JavaScript language
  - From O'Reilly
    - *Learning JavaScript*; Shelley Powers
    - *JavaScript: The Definitive Guide*; David Flanagan

# JavaScript and AcroForms

## *JavaScript Resources - Adobe*

- JavaScript for PDF Documents from Adobe:
  - [www.adobe.com/devnet/acrobat/javascript.html](http://www.adobe.com/devnet/acrobat/javascript.html)
    - [js\\_api\\_reference.pdf](#)
    - [js\\_developer\\_guide.pdf](#)
  - [www.adobe.com/devnet/pdf/pdf\\_reference.html](http://www.adobe.com/devnet/pdf/pdf_reference.html)
    - [pdf\\_reference\\_1-7.pdf](#)
- Caveat: Not all objects or methods are implemented in Viewer ActiveX JS Engine!
  - List is in Viewer generic documentation.

# JavaScript and AcroForms

## *Viewer ActiveX - JavaScript Engine*

- The PDF-XChange Viewer ActiveX contains a JavaScript Engine.
- This Engine may be used in two ways:
  - By JavaScripts contained within PDF documents. This is not today's topic.
  - By executing JavaScripts from within programs using calls to the ActiveX. This will be discussed using two supplied demo programs.
    - **pvxfrm20.app** – extracts data from forms
    - **pvxd2f20.app** – inserts data into forms

# JavaScript and AcroForms

## RunJavaScript Method

JavaScriptTextQ

Line

QUEUE,TYPE

STRING(1024)

END

RunJavaScript PROCEDURE (

LONG DocID,

JavaScriptTextQ in\_JS,

JavaScriptTextQ out\_JS,

LONG Flags=0

),BOOL,PROC

|

| Document to process: "this"

| Input Script Queue

| Returned Output Queue

| Flags

! Returns True if OK;

! False if error

# JavaScript and AcroForms

## Form Data Extraction - JavaScript

This sample script extracts all the Form fields and corresponding values as a memory image of a tab-delimited BASIC file.

```
function sample()  
{  
    var s = "";  
    for ( var i = 0; i < this.numFields; i++ ) {  
        var fname = this.getNthFieldName(i);  
        var f = this.getField(fname);  
        s += fname + "\t" + f.valueAsString + "\r\n";  
    }  
    return s;  
}  
sample();
```



# JavaScript and AcroForms

*pvxfrm20.app*

Compile and Run **pvxfrm20.app**

# JavaScript and AcroForms

## Form Data Insertion - JavaScript

- More difficult than extraction, because Form Field type must be taken into account.
- Reusable Script is desirable.
- See **pvsd2f36.js**
- Compile and run **pvsd2f20.app**

# **Part 3: Opening PDF Documents Stored in BLOB fields**

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# Opening PDF Documents Stored in BLOB fields

Compile and Run `pvxblb20.app`

# Tracker Software Products. Ltd.

## *Developer SDK Promo Codes*

- Promo codes valid until Feb 15, 2011:
- **cla\_webinar1** - 15% off Viewer Activex PRO SDKs
- **cla\_webinar2** - 10% off PDF-Tools & Driver API, PRO SDK's
- Orders via **sales@tracker-software.com**