Extending Adobe FrameMaker 10

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Extending Adobe FrameMaker Beyond What's In the Box

- **2 ways to extend FrameMaker**
  - **F**rameMaker **D**eveloper **K**it
  - ExtendScript

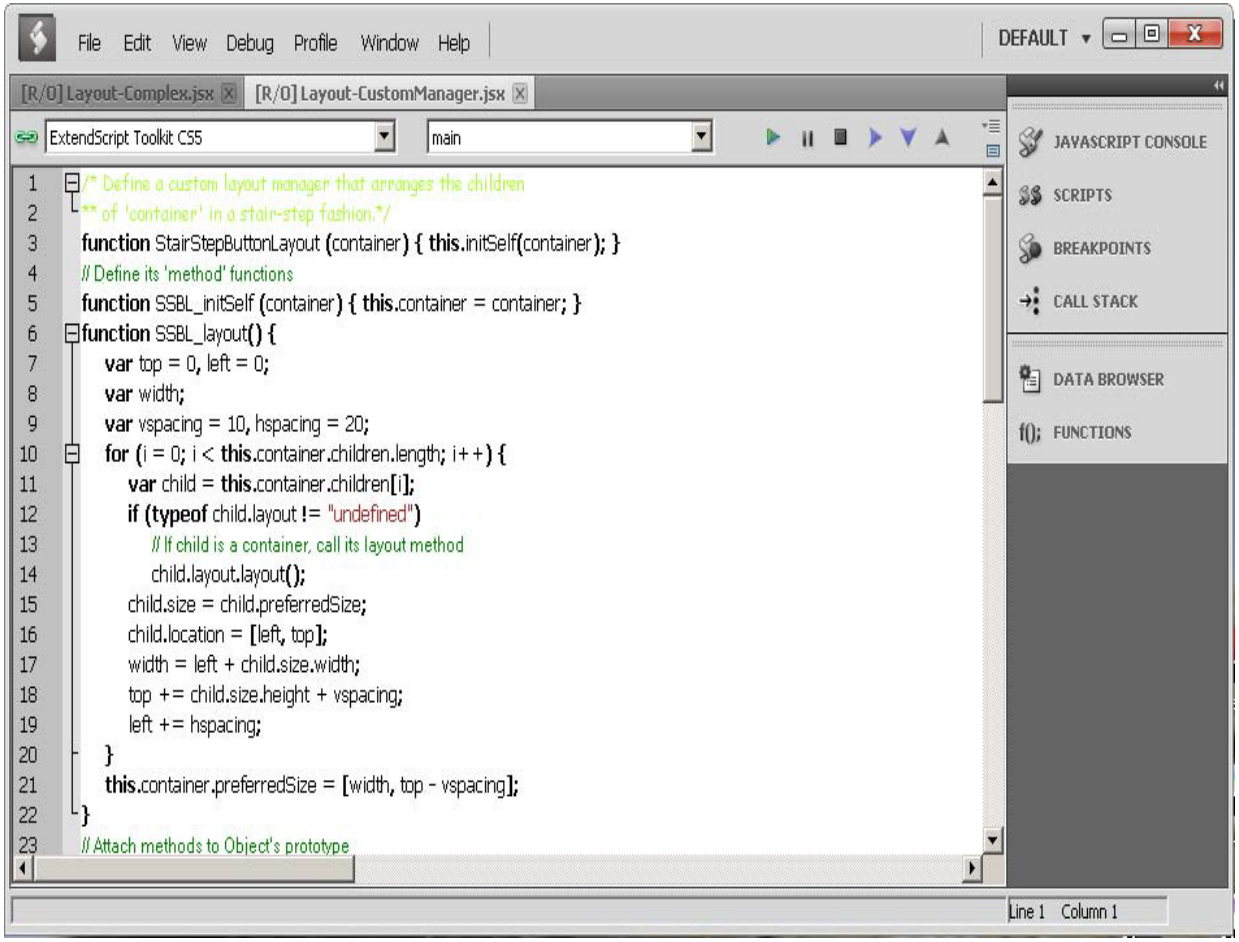
- **In this presentation, we would focus on ExtendScript**

What is ExtendScript?

- Extended Implementation of JavaScript
- Used by many Adobe applications that provide a scripting interface
- Provides:
  - Development and Debugging Tools
  - User Interface Development Tools
  - Extensions
  - Inter-application communication and messaging

Development and Debugging tools

- ***ExtendScript Toolkit*** : IDE for ExtendScript
- Debugging Features:
  - Single-step through.
  - Breakpoints.
  - Watch
  - …
- Coding Aids
  - Code Completion
  - Code Profiling
  - Inspecting Object Models.
  - ….

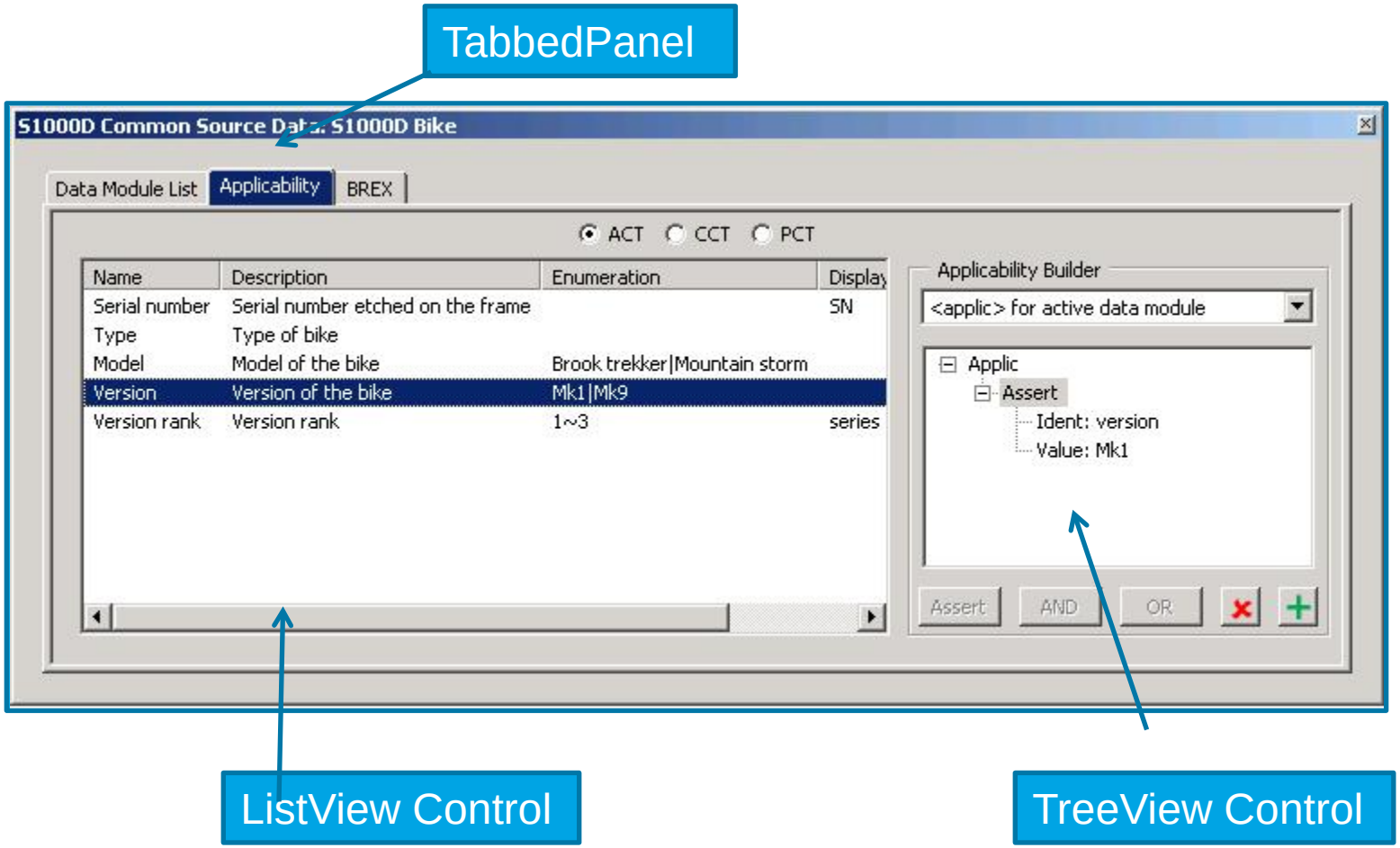


User-interface development tools

- Richer UI using ***ScriptUI*** class
- Create Modal / Floating Palettes
- Rich control set
  - `Panel / TabbedPanel / Tab / Group`
  - `TreeView / ListView`
  - `ProgressBar`
  - `Slider`
  - `FlashPlayer`
- Supports Localization Framework for UI
  - `msg = { en: "Hello, world", de: "Hallo Welt" };`
  - `alert (msg);`

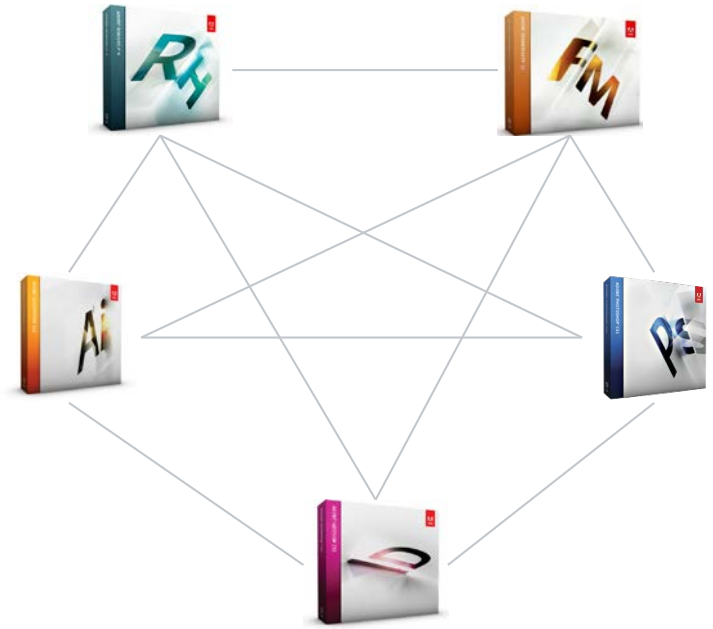
User-interface development tools (examples)

- S1000D dialog shipping in FM10



Inter-application communication and messaging

- Provides a common scripting environment for all Adobe JavaScript-enabled applications
  - Adobe After Effects
  - Adobe Bridge
  - Adobe Illustrator
  - Adobe InCopy
  - Adobe InDesign
  - Adobe Indesign Server
  - Adobe Photoshop
  - Adobe Robohelp



- Startup Scripts located at:
  - `C:\Program Files\Common Files\Adobe\Startup Scripts CS5`

Inter-application communication and messaging

- Cross-DOM Functions

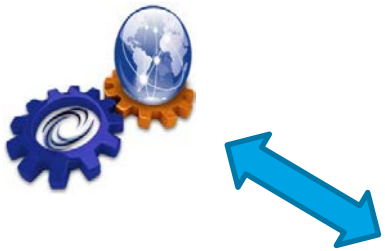
```
//Opens files in Illustrator Version 12
illustrator12.open(files);

//execute a Photoshop script in the highest available version
photoshop.executeScript (myPSScript)
```

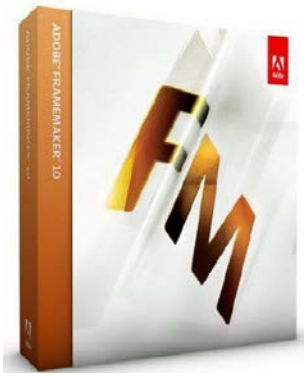
- Messaging Framework
  - Send Message to other message enabled applications
  - BridgeTalk Message Object
  - Complete access to Object model of other applications

Extensions: External communication using Socket

- **Socket** object supports functionality to connect to remote computer over TCP/IP
- Example of HTTP Call:

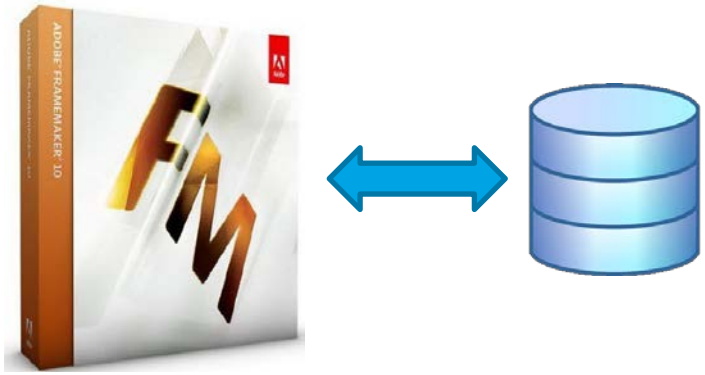
```
//create Socket Object
conn = new Socket;

// access Adobe's home page
if (conn.open ("www.adobe.com:80")) {

// send a HTTP GET request
conn.write ("GET /index.html HTTP/1.0\n\n");

// and read the server's reply
reply = conn.read(999999);
conn.close();
}
```





Extensions: File System Access using File and Folder

- Access file system using ***File*** and ***Folder*** Objects
- File Object
  - `openDialog() / saveDialog()`
  - `open() / close() / read() / write() / seek() …..`
- Folder Object
  - `selectDialog()`
  - `create() / remove() / getFiles() / …`
  - `appData / commonFiles / desktop / myDocuments / startup / userData …`



Extensions: External C/C++ code using ExternalObject

- Load C and C++ shared library as ***ExternalObject*** instance
- Extend the JavaScript DOM
- Opens up opportunities to extend functionality using C/ C++ code libraries
- Example

```
//Create ExternalObject and Load the library
mylib = new ExternalObject ("lib:" + samplelib);

// access functions directly from ExternalObject instance
var a = mylib.method_abc(1,2.0,true, "this is data") ;
mylib.unload() ;
```

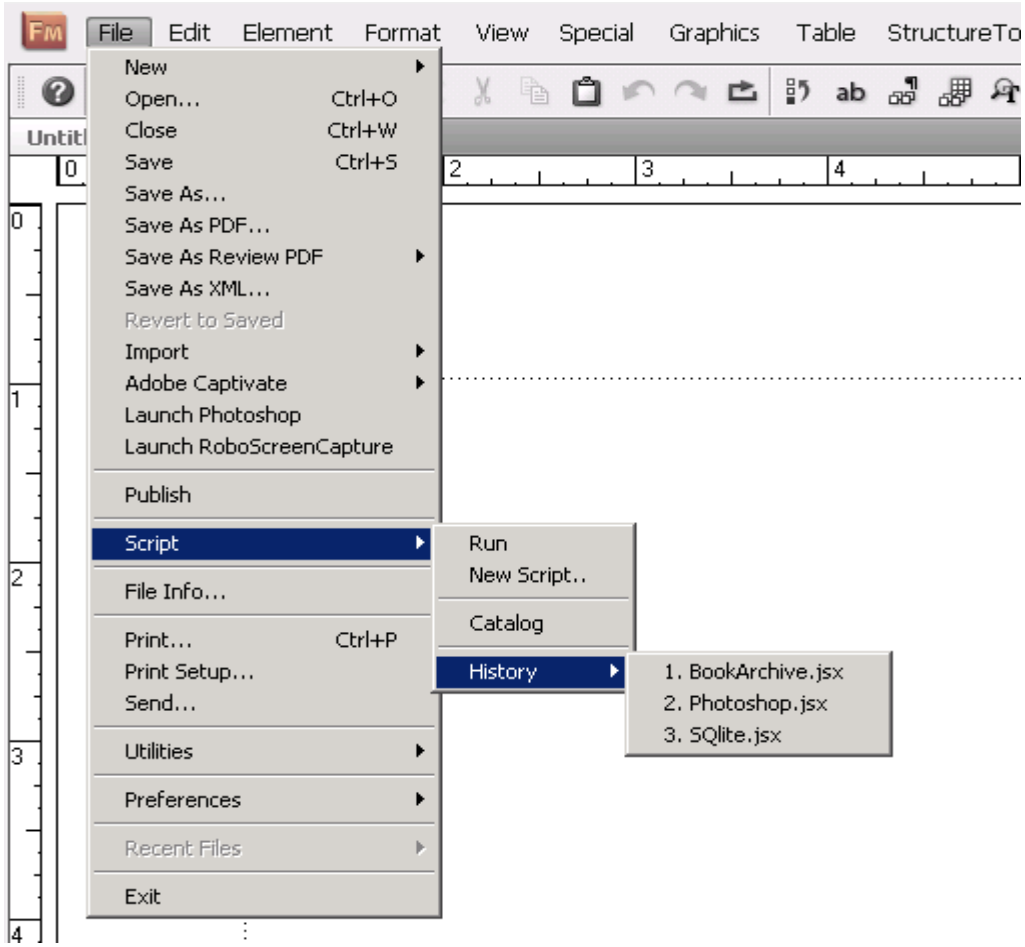
FM ExtendScript Support

- Built over FDK.
- Scripting support itself is implemented as a FDK Client
- FDK Client → ExtendScript
  - `F_ApiCallClient("ScriptingSupport", <filepath-to-script>)`
- ExtendScript → FDK Client
  - `CallClient(“My Client", “Hello there”)`

Note: ExtendScript is not replacement for FDK. Its just another option to extend FrameMaker.

FM ExtendScript Menu

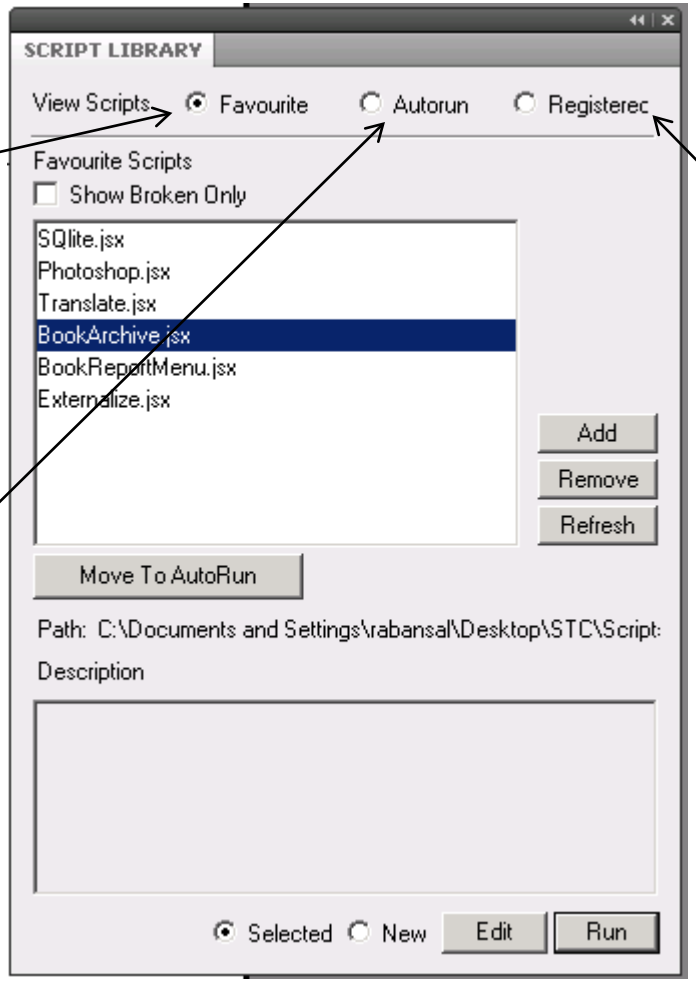
- Menu Items



Script Catalog

Manage Favorites

Scripts at FM Launch



Scripts that listen to Notifications

FDK v/s ExtendScript

FDK

- Set of C Libraries
- Dev Profile
- Need to compile and create plugin that can be shared.
- Visual Studio needed
- Options to create UI

ExtendScript

- Scripting Language (JavaScript)
- Everyone: Easier to program and learn
- No compilation needed. Directly script can be shared
- ExtendScript IDE provided
- Richer options to create UI using ScriptUI
  - Creating modal and modeless dialogs
  - Rich set of controls
- Communicating between TCS products
  - Modifying an image in Photoshop from FM

FDK v/s ExtendScript (FM functionality examples)

FDK

- Import PDF Comments
- Doc Compare
- ….

ExtendScript

- Complete S1000D functionality
- More to come….

Type Of Scripts: Automate Tasks / Utilities

- Automate repetitive tasks
- Write utilities to create additional functionality
- Everything that can be accessed through FDK is available through ExtendScript as well
- Quick access to documents / objects

```
//Get Active Doc
activeDoc = app.ActiveDoc;

//Iterate Markers
var m = activeDoc.FirstMarkerInDoc;
while(m.ObjectValid()) {
    //Do Something
    m = m.NextMarkerInDoc;
}
```

Type Of Scripts: Notifications Based

- Register for notifications

```
//Register for notification
Notification(FA_Note_PreOpenDoc,true)
```

- Implement Notification Handler

```
//This will be called for registered notification
function Notify(note,obj,sparm,iparm){
switch (note) {
    case FA_Note_PreOpenDoc:
            // do something
    break;
    }
}
```

Type Of Scripts: Menu Commands

- Register Menu / Commands

```
//Create a menu item in Table Menu
var docMenu = app.GetNamedMenu("TableMenu")
var sqlMenu = DefineMenu ("SQLite", "SQLite");
docMenu.AddMenuToMenu (sqlMenu);
var sqlCmd1 = DefineCommand(1, "Resolve", "Resolve Tables", "");
```

- Implement Command Handler

```
//This will be called when menu item is clicked
function Command(cmd){
   switch(cmd){
          case 1:  loopAllSQLTableMarkers(); break;
          case 2:  runQueryOnSelectedTable(); break;
   }
}
```

Type Of Scripts: Startup

- Register scripts to AutoRun at startup
  - Copy files / configs from central location
  - Register / Create Menu commands
  - …..
- Scripts in <FMINSTALL_DIR>\startup
- Scripts Registered through ScriptCatalog → AutoRun