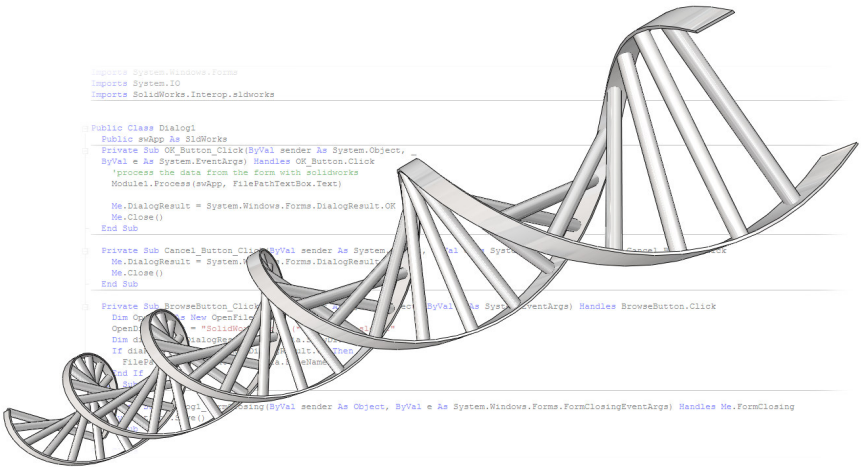


Automating SolidWorks 2009 Using Macros



***A Visual Studio Tools for Applications
tutorial for SolidWorks users***

Using the Visual Basic.NET Language

Written by Mike Spens

Table of Contents

Macro Basics	1
Introduction	2
Recording the Macro.....	2
Code Description.....	3
Modifying the Macro.....	17
Running Macros	19
Conclusion	22
One Button PDF Publishing	25
Introduction	26
Initial Code	26
Code Modifications	29
IO.Path.....	30
Create a Button in SolidWorks.....	31
Conclusion	31
Model Parameters Using Excel VBA	33
Introduction	34
Dimension Parameters.....	34
Using Excel's VBA.....	40
Selection Methods	47
Conclusion	53
Controlling Options	55
Introduction	56
Getting and Setting Options	56
SolidWorks Constants.....	67
Conclusion	69
Material Properties	73
Introduction	74
Part 1: Basic Material Properties	74
User Forms	75
Part 2: Working with Assemblies	84
Verification and Error Handling.....	90
Conclusion	91
Custom Properties	95
Introduction	96
Part 1: Setting Properties	96
Part 2: Adding the Ability to Modify Properties.....	102
User Interactions.....	109
Debugging Tips	117
Part 3: Add and Delete Properties	121
Part 4: Save and Copy Between Files.....	128
Conclusion	135
Model Creation	139
Introduction	140
Part 1: Geometry Creation	140

Table of Contents

Creating A New Part	146
Creating a Sketch	147
Creating Features	150
Part 2: Feature Editing and Traversal	163
Feature Editing	163
Feature Traversal	171
Conclusion	175
Data Import.....	177
Introduction	178
3D Points	178
Code Changes.....	180
Code Files and Portability	182
3DCurves	185
Conclusion	187
Drawing Automation	189
Introduction	190
Creating Drawings	190
Windows Directories Using System.IO Namespace.....	197
Working with Notes	206
Conclusion	210
Add Assembly Components.....	213
Introduction	214
Assumptions.....	214
Processing Code	218
Processing Selections.....	220
Traversing Topology	222
Adding a Part to an Assembly	226
IMathUtility and Transforms.....	229
Working with File References.....	237
Finding File References	238
Functionality Additions	245
Saving the References List.....	247
Conclusion	251
PropertyManager Pages	255
Introduction	256
Building a PropertyManager UI.....	256
Page Control Creation and Layout.....	266
Defining PropertyManagerPage Handlers.....	276
Conclusion	280
Using Notifications (Events) in SolidWorks Macros.....	283
Introduction	284
Initial Code	284
WithEvents Declaration.....	284
Creating the Notification Functions	285
ActiveDocChangeNotify	286
FileSaveAsNotify2	289
Debugging Notification Macros.....	290
Starting SolidWorks including Macros.....	290

Conclusion	292
Workgroup PDM API Basics	295
Introduction	296
Connecting to Workgroup PDM	296
Workgroup PDM Interfaces	299
Conclusion	302
Extract Workgroup PDM Documents	305
Introduction	306
Working with Workgroup PDM Documents	312
Extracting Document History	316
Conclusion	325
Workgroup PDM Check In	329
Introduction	330
Establishing the Connection	330
Processing Documents	335
Renaming Documents	338
Checking In Documents	339
Conclusion	343
Favorite Code Examples.....	345
Introduction	346
Batch Process Files	346
Traverse Features of a Part.....	351
Traverse Assembly Components.....	357